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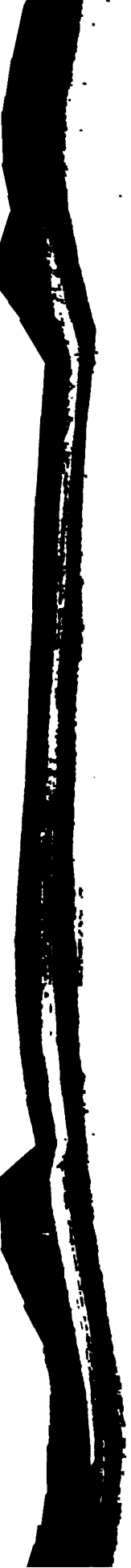
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THOMAS WAKLEY, SURGEON, J. HENRY BENNETT, M.D., AND T. WAKLEY, JR., M.R.S.C.E.

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Royal College of Physicians.

CROONIAN LECTURES.

ON

INTESTINAL OBSTRUCTION.

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS.

By WILLIAM BRINTON, M.D.,

FELLOW OF THE ABOVE COLLEGE; PHYSICIAN TO THE ROYAL FREE HOSPITAL;  
LECTURER ON PHYSIOLOGY IN ST. THOMAS'S HOSPITAL; HONORARY  
FELLOW OF KING'S COLLEGE, LONDON, ETC.

## LECTURE I.

*Introduction. Kinds of obstruction. Mechanical obstruction. Typical case. Faecal vomiting. Antiperistaltic view. Argument against it. Explanation of faecal vomiting. Modifying circumstances. Stages of obstruction. Symptoms of first stage. Distension. Fluctuation. Movement of intestine. Pain: two kinds. Constipation. Nature of second stage. Symptoms. Paralysis. Inflammation. Rupture. Collapse.*

In choosing, for the subject of these Lectures, the maladies grouped under the name of "Intestinal Obstruction," I am influenced chiefly by two motives. On the one hand, I think that the wishes of the deceased benefactor of this College, whose name these Lectures bear, are best fulfilled by their discussing topics of great practical importance; on the other hand, I feel that I am less likely to discredit our venerated President's choice of a lecturer, if I dwell on a subject which has long occupied my attention; and of which the present aspect permits me to hope that I may furnish some interesting details concerning its Pathology in general, and especially, its Diagnosis and its Treatment.

Warned by the failures of others, I shall not attempt the difficult and useless task of defining an intestinal obstruction. Leaving the word "intestinal" to explain itself, I would only qualify the word "obstruction" by pointing out a

pathological distinction which concerns it. Without looking too closely into its etymology, I would premise, that obstruction, as witnessed in the intestines, exemplifies what might almost be regarded as a law, holding good for all tubes prepping contents by their own muscular contractions. In tubes of this kind, obstruction is producible in two ways: by a constriction or occlusion of calibre, such as opposes and overcomes their propulsive efforts; and by a failure of propulsive force, such as a weakening, or paralysis, or destruction of their muscular walls can bring about. Thus, if both the pneumo-gastric nerves of a healthy rabbit be divided near their origin, its paralyzed œsophagus may be so obstructed by the accumulation of the food it takes, as to threaten its suffocation: in other words, this tube may be affected by an obstruction not less complete or dangerous than that producible by a ligature. And a variety of instances might be adduced to show how a virtual obstruction of any other part of the alimentary canal may result from a paralysis of its walls: a paralysis alike producible by an interruption of continuity in its muscular structure, by a violent inflammation, or by a nervous shock.

Now, without denying that, in rare cases of intestinal disease, it may be questioned which of these two varieties of obstruction is present; and that, in many instances, both concur; my object obliges me to restrict myself to the latter, to that which is sometimes called "mechanical" obstruction.

The propriety of this epithet is, indeed, more than doubtful. For the impediment caused by mere loss of contractile power is, in one sense, mechanical. And just as, in many forms of intestinal occlusion, the physical obstacle is, from the very first, enhanced by a local embarrassment or failure of peristalsis; so, in the later stages of that mischief which it brings about, we generally find evidence of a more diffuse paralysis, itself amounting to a further obstacle.

But, not to anticipate such details, I adopt the term "intestinal obstruction" as signifying a class of cases, of which the characteristic symptoms are due to a mechanical hindrance to the transit of contents through the bowel. And I propose to treat of these cases, in the three following Lectures, by successively considering—(1) The Pathology of intestinal obstruction generally. (2) Its chief varieties. And (3) the principles of its Treatment.

The succession of symptoms typical of intestinal obstruction may be sketched as follows:—

A person, perhaps hitherto healthy, experiences a sudden constipation, attended with disproportionate uneasiness or flatulence, soon merging into pain and distension of the belly, with violent rolling movement of the intestines. The distension increasing, nausea and vomiting supervene; and, gradually becoming more frequent, end by rejecting, not merely any casual ingesta contained in the stomach, or the greenish, bilious, alkaline fluid commonly thrown up when this organ is unoccupied by food, but a fluid of greater opacity, color, and consistence, with a distinctly faecal odor. A further aggravation of these symptoms now conducts the malady to its fatal termination; which, however, is often preceded, locally by signs of paralysis, inflammation, or even rupture of the distended bowel, and, constitutionally, by exhaustion or collapse replacing a febrile reaction. In other cases, the obstacle being removed by Nature or Art, (if by the former, rarely before life is in extreme danger,) the symptoms subside with comparative celerity. The pain, distension, and vomiting cease; the bowels are relieved by copious stools; and the patient (if not placed in further peril by any of those accidents or sequelæ of obstruction just hinted at) is rapidly restored to comparative health.

In discussing these symptoms, it will be advisable so far to deviate from the above succession, as to begin with that which is in many respects, the most remarkable of them all—namely, faecal vomiting. Long known to be pathognomonic of intestinal obstruction, and explained by a doctrine which had reigned almost unquestioned from the days of Galen, it is not for me to assume that the refutation which (in the opinion of some of the best authorities) this doctrine received at my hands some twelve years ago, is sufficiently known to require no further allusion. And this necessity of exposing an all-important error in the pathology of obstruction, can hardly be regretted, since it calls special attention to a symptom, which is so intimately related to all the other phenomena of the disease, as to constitute a clue to their occurrence, and a measure of the completeness and simplicity of the obstacle itself.

It was formerly supposed that faecal vomiting was effected by an anti-peristaltic movement of the intestinal canal; that, at a certain stage of intestinal obstruction, the natural peristaltic action of the bowel above the occluded point

was reversed; so that instead of proceeding towards the anus, or lower outlet, as heretofore, it took the contrary direction; thus impelling the intestinal contents in a similarly retrograde course, so as to return them to the stomach, whence they were vomited. Vomited, it would seem, in the opinion of some authorities, by a prolongation or continuance of the same anti-peristalsis backwards through the pylorus to the cardia: in the opinion of others, by an action of this kind, only differing from the reversed movement of the bowel in its having the stomach for a second starting-point.

In opposition to this theory, however, I advanced the following considerations:—

1st. Amongst the numerous writings which affirm an anti-peristalsis, there is not one which substantiates its occurrence. The supposed movement has never been observed, far less seen to concur with obstruction, and to produce faecal vomiting.

2nd. In vivisections of animals in whom the intestine has been artificially obstructed for some days, its movements are seen to be more evidently and uniformly peristaltic than in the normal state, owing to an increase in the energy of the movements themselves—an increase such as may often be directly verified in the obstructed intestine of the human subject, by inspection and palpation of the belly.

3rd. An anti-peristalsis is supposed to be caused by an over-irritation at the obstruction, inverting\* the natural action of the bowel. Hence, irritation is regarded as the first link in the chain of its causation. Now we can scarcely name any other morbid state of the bowels in which an over-irritation is not present; or show any deficiency in the degree or kind of irritation associated with many intestinal diseases, such as would, on this view exclude or prevent an anti-peristalsis. But while the alleged cause is thus a common incident of intestinal disease, the alleged effect—faecal vomiting—is not only rare, but is strictly limited to instances of occlusion of the tube. Hence, the mechanism of the process must be sought, not in any chain of causation begun by mere irritation, but in the single fact—occlusion—which is at least its conditioning cause.

4th. The necropsy of cases of obstruction positively refutes the notion of an anti-peristalsis. No matter how many days faecal vomiting may have lasted before death; no matter (that is) how long the anti-peristalsis alleged to cause this vomiting must also have preceded that event; an inspection of the obstructed bowel always affords irrefragable evidence that the general direction of the intestinal movement, and the general course of the intestinal contents, has been downwards to the obstructed point, and not upwards from it. In other words, though

\* All substances which, when their action is moderate, promote the peristaltic motions of the irritated parts, by a more violent operation cause those motions to become reversed."—*Mueller's Physiology*, by Dr. Baly.

an anti-peristaltic movement of ten or twenty days duration, rolling backwards the contents of the bowel with frequent and violent muscular writhings, (such as can be felt through the wall of the belly,) ought to have rendered the calibre of the intestine at least uniform throughout, if not greatest at the duodenal end towards which the movement had set, the necropsy always shows a condition precisely the reverse of this. That part of the bowel which is supposed to be the chief and original seat—the starting point—of the inverted action, (namely, the obstruction,) evinces the least proof of its having occurred, and is by far the most distended segment of the whole tube; so that the intestine, tapering away from this broad base upwards or backwards towards the duodenum, forms a kind of cone, and generally dwindles to comparative or absolute emptiness before reaching the pylorus. Its appearances are, in fact, closely akin to those seen in any other distensible tube, (such as a gall duct or ureter,) the fluid contents of which have been actively propelled by its own contractions towards a strangulated point.

5th. While the supposed anti-peristalsis might fairly be expected to extend, like the irritation causing it, beyond the occluded point, both observation and experiment show that, long after the occurrence of obstruction, the bowel at and below the occluded point often empties itself by propelling its contents in the normal direction. So that, on the theory of an anti-peristalsis, the irritation of a given part of the bowel renders it the starting-point of two precisely opposite movements—one upwards towards the stomach, one downwards towards the rectum. And while, as above noticed, the former (supposed) movement not only fails to empty the segment it starts from, but always permits its extreme distension; the latter, on the contrary, generally empties and contracts its corresponding segment of the intestine to a tube with a thick wall and a narrow calibre, like the stem of a tobacco-pipe. (*a*, Fig. 3.)

6th. A comparison of the symptoms and appearances in some cases of obstruction affords a specific disproof of all anti-peristalsis above the occluded point. In spite of the persistence of fæcal vomiting, castor oil, crude mercury, and other substances easily identified, which have been taken into the stomach shortly before death, are shown by the necropsy to have traversed the whole intervening length of intestine, to be only stopped by their reaching the strangulation itself.

Hence the notion of an anti-peristalsis was contradicted, not only by direct observation, but by those collateral circumstances which ought to have afforded scarcely less valid proof of its occurrence. On the other hand, a careful study of the phenomena of intestinal obstruction, as witnessed in the human subject, and produced in experiments on animals, led me to the following theory.

The movement proper to the healthy intestine is a circular constriction or peristalsis, which, traveling slowly down its muscular wall, propels its contents in a direction from the stomach towards the anus. And when any part of the intestine has its cavity obliterated by an immovable mechanical obstacle, its contents, propelled by such a peristalsis, are stopped at the obstructed point. Here they gradually accumulate, so as first to fill, and then to distend, a variable length of the canal, with a more or less liquid mass. But a peristalsis, engaging the wall of a closed tube filled with liquid, and falling short of obliterating its calibre, sets up two currents in that liquid; one at the surface or periphery of the tube, having the direction of the peristalsis itself, and one in its centre or axis, having precisely the reverse course. Those particles of the liquid which are in contact with the inner surface of the tube are propelled onwards by the muscular contraction of its wall. And this propulsion is necessarily accompanied by a backward current in those particles which occupy the axis or centre of the canal.

For example, let Fig. 1 represent an inflexible closed tube, filled with liquid, and fitted with a perforated septum, capable of moving freely along its interior. Let such a septum be moved towards the closed end of the tube, and it not only propels some of the contiguous particles of liquid in the same direction, but also exerts a pressure on the whole mass of liquid contained there. The pressure being equal in all directions, part of the liquid escapes backwards through the central orifice of the septum. This backward current is constantly lengthened as the septum advances towards the closed end of the tube. And the slow successive movement of a series of such septa (Fig. 2) would establish two continuous currents in the liquid contents of the tube—a peripheral of advance, and a central of return, to and from its closed (or obstructed) end respectively.

FIG. 1.



FIG. 2.



It is scarcely necessary to say that such a model differs in many respects from a living in-

testine; and that the contents of the latter tube at its obstructed point would in no case be returned towards the pylorus, unmixed and unaltered, along the mathematical axis of the bowel. Even in the inflexible model, it would depend upon a variety of circumstances—especially on the length of the column of liquid, the number and width of its septa, and the rapidity and energy of their movements—whether the forward and backward currents would constitute two distinct streams, separated from each other by a comparatively motionless interval of liquid, or whether they would be broken up in effecting an uniform and intimate mixture of the whole contents of the tube. But no matter how imperfect, irregular, or confused the two currents might be, it is evident that the tendency to establish them would be so far effective, as that a moderately protracted and energetic peristalsis would of necessity result in that condition which chiefly requires explanation in faecal vomiting—namely, in such a mixture of the contents of the intestine, as allows some of them to return from a lower to a higher segment of this tube. (Fig. 3.)

FIG. 3.



FIG. 4.



Diagrams to illustrate the peristalsis of an obstructed bowel.

FIG. 3.—Stage of moderate distension, with forward and backward currents, as indicated by the arrows, traversing the whole tube above the obstacle. *a*, contracted segment of intestine below the obstacle.

FIG. 4.—Stage of extreme distension, in which, *d*, the dilated and paralyzed segment above the obstacle is not engaged by either of these currents.

The facts and the theory of faecal vomiting may therefore, be thus associated. In most cases of intestinal obstruction, the patient vomits matters evidently faecal. The appearance of these matters, and the subsequent necropsy, often conclusively show that they have traversed a great length of intestine in a direction towards the stomach; that they have returned, for example, to this organ from an obstruction seated in the lowest part of the ileum, or even in the colon. This reflux is the result of the intestinal peristalsis; which, acting on an obstructed and distended bowel, not only effects the ordinary propulsion of its contents towards the ob-

stacle, but also gives rise to what is, theoretically, a backward current in the liquids occupying the centre of the tube; practically, a tendency to such a current. However interfered with by other movements, abdominal or intestinal, this tendency has sufficient energy to effect a more or less intimate mixture of the intestinal contents; and to return some of them from the obstructed part, to a higher segment of the canal; generally, indeed, to the duodenum or stomach, whence they can be expelled by vomiting.

Amongst the circumstances which modify this process are the following:—1. The dilatability of the obstructed bowel; which on the one hand, by yielding to the pressure of peristalsis, delays and opposes the axial current; while, on the other (since the intestine acquires much of its increased width at the expense of its normal length) it diminishes the length through which this current must extend to provoke faecal vomiting. 2. The paralysis which, sooner or later, results from increasing distension, removes, as it were, the point of reflection of the peristalsis, or the commencement of the axial current, to a higher point of the bowel. (Above *d*, Fig. 4.) 3. In the large intestine, the presence of hardened faeces above the obstruction seems sometimes to have a temporary effect of the same kind; the impacted mass forming a secondary obstruction, to and from which the peristalsis, and its reflected current, respectively tend. A somewhat less solid consistence of the matters originally present at the obstructed part, may also suffice to prevent (or, at any rate, to defer) their transmission backwards towards the duodenum. Lastly, the vigor, frequency, length, and duration of the peristaltic movements of course influence the establishment of these currents; and the completeness of that mixture which is their chief practical result. From reasons of this kind, the ingestion of frequent and copious draughts of water by an animal with an obstructed intestine, is sometimes associated with a vomiting so immediate and energetic, as to return this liquid from the stomach or duodenum, scarcely altered save in its having acquired a greenish bilious color; and certainly devoid of faecal odor, as well as of any admixture of the intestinal contents afterwards found at the obstruction.

But, besides the above modifying circumstances, it is important to notice some which, though scarcely to be verified in experiments on animals, greatly influence the intestinal obstructions of the human subject. First amongst these is the situation of the obstruction. When the obstacle engages the small intestine, the date at which faecal vomiting follows obstruction appears to have a general (though, for obvious reasons, inexact,) relation to the length of intestine which intervenes between the obstruction and the stomach. The lower the obstacle in the bowel, the longer is the segment of intestine to be distended, as

well as the path thereafter to be traversed by the returning liquids; and, therefore, the later the faecal vomiting which they excite on reaching the stomach. But when the obstacle engages the large intestine, this law applies more exactly; partly from the longer path through which the contents of the bowel have to flow back; partly, I believe, from the slower and more intermittent peristalsis proper to this segment of the digestive tube.

A further cause of delay is also present in these cases; and its mechanism (hitherto overlooked in the consideration of this subject) appears to offer an independent disproof of the anti-peristaltic theory, as well as a strong argument for the views I have suggested.

It has been known for centuries that the ilio-cæcal valve, constituting, as it does, a special arrangement to prevent the contents of the cæcum from returning into the ileum, is, nevertheless, traversed by these contents in a backward direction during obstruction of the large intestine. The marked faecal characters—the odor, solidity, and even form—of these contents, have been recognized in the substances vomited from the mouth by the patients thus affected. Now, it is manifest that no mere anti-peristalsis could evade the obstacle formed by this valve, and nullify its purpose by propelling faeces from the cæcum into the ileum; that any attempt at such a process, however co-ordinate or continuous, would completely obliterate the ilio-cæcal aperture, and thus prevent all reflux through it. Nothing, in fact, can mediate such a transit, save extreme distension of both the adjoining segments of bowel which communicate through the valve. And this distension, which receives a good illustration from the inflated and dried specimens (Fig. 5) of the valve seen in *Anato-*

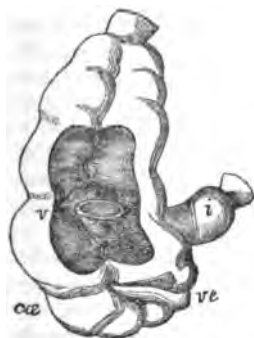
rents they impress on its contents) as the obstructed small intestine. The only differences which can be detected in the history and necropsy of a series of such cases in the two divisions of the intestinal canal, are the following:—In obstruction of the large intestine, the great distension requisite to throw open the ilio-cæcal valve often defers the access of the symptoms to a late period of the malady; indeed, if the obstructed point be far below the valve, the time occupied by the gradual distension of the bowel intervening between the ileum and the obstruction may prevent the occurrence of faecal vomiting during the life of the patient. And the same distension, by tending to paralyze the bowel, may also interfere with the completeness (or distinctness) of the return of faeces from the cæcum or colon. Lastly, the more solid consistence of these faeces may, as already suggested, further oppose the circulation (or, at any rate, admixture) necessary to their traversing the long tube which intervenes between the obstruction and the pylorus.

Another circumstance deserves special notice here, as affording a clue to much in the pathology of intestinal obstruction. From experiments in animals, and observations in Man, I deduce the following proposition:—Excluding the rarer accidents of this state, the rapidity of death depends greatly on the degree and rapidity of that distension which the obstruction brings about; in other words, the fatal event is, in general, hastened or deferred, according as inflammation, secretion, and ingestion, together fill quickly or slowly, completely or incompletely, the segment of intestine above the obstructed point.

From such a consideration of the mechanism of faecal vomiting, we may divide the ordinary course of intestinal obstruction into two stages; of which the first modifies, but yet in some sense continues, the healthy action of the bowel; while the second arrests (and, in the majority of instances, utterly and permanently annihilates) them. The first, with all its abnormal incidents—pain, distension, vomiting, and writhing peristalsis—corresponds to a period when the obstructed bowel is not only capable of recovery, supposing the obstacle removed, but is engaged in a continuous struggle against that obstacle. The second is connected with the development, in the intestine, of lesions which are generally irreparable, and are scarcely less threatening to life by the constitutional injury they imply. The mere paralysis of the obstructed bowel, once developed, can render any subsequent removal of the obstacle of little avail towards the re-establishment of the intestinal functions. The enteritis and peritonitis which generally follow this state are even more directly fatal; and may be regarded as adding, to the phenomena of obstruction, those of diseases scarcely more deadly from the vital organs they involve, than from the prostration and collapse they produce in the system at large.

Among the symptoms of the first stage is one

FIG. 5.



Cæcum inflated, dried, and laid open; to show the result of extreme distension on the ilio-cæcal valve.  
cæ, cæcum. ce, vermiform apex. i, ileum. v, ilio-cæcal valve.

mical Museums, and which may always be traced in the necropsy of cases where obstruction of the large intestine has given rise to faecal vomiting, enforces upon the valve a patulous state which places the whole intestine (large and small) down to the obstructed point, in the same condition (as regards its movements and the cur-

which claims precedence, not only because it has the importance of a physical sign—a morbid change which can be verified during life,—but because its value has not hitherto received a due recognition. For though many are quite acquainted with the exactness of observation attainable by the aid of percussion and palpitation in lesions of the belly, these aids to diagnosis are still so far underrated, as that some who apply them sedulously and successfully in thoracic maladies, seem not to derive from them all the scarcely less accurate and useful information they afford in abdominal disease. By careful examination of this kind through the yielding wall of the belly, that abnormal *distension* of the intestine, which we have found to be a condition of fæcal vomiting, may be detected in its very origin, and traced in all its successive stages. And, considering that this sign is not only far more conclusive than any mere symptoms, like pain, tenderness, nausea, or even vomiting, but that it may often be verified before they have become prominent, it is difficult to exaggerate its importance. Experience entitles me to assert, that the accumulation of intestinal contents immediately above the obstructed point may sometimes be detected, as a slight fulness to palpation, and a much more definite dullness to percussion, where many of the other indications of obstruction are scarcely perceptible, or even absent. Indeed, I have been thus enabled to decide on the existence, and even the situation, of an obstruction, when there has been no pain or vomiting, no constipation; when the obstruction has occurred suddenly, in the course of a severe diarrhœa; and when the distension of a few loops of small intestine has been obscured by tympanitic dilatation of the neighboring colon.

Four years ago, I was called to see a middle-aged female who had been suffering two or three days from a violent attack of English cholera. The last liquid stool had been passed but six or eight hours before I saw her. But after three hours of comparative quiet, the twisting umbilical pain of the malady had returned, as well as the vomiting which had accompanied it; both, however, with diminished severity. The medical gentleman in attendance thought the patient's aspect very suspicious; the more so, that she had long suffered from a small femoral hernia. On examining the belly, I found the lower part of the left iliac fossa occupied by what was evidently small intestine, filled with liquid. The hernia (on the same side) was quite painless when handled, and had the doughy feel suggestive of omentum. It was irreducible: a fact upon which the patient laid no stress, as it had often been so before, for many weeks at a time. I could only recommend a careful attempt at the reduction of the hernia, under the influence of a warm bath, aided by opium or chloroform; and, failing immediate success from these, an operation. In accordance with the latter suggestion, she underwent the operation, in little more than

fourteen hours from the time of passing the last of a series of choleraic stools, and recovered without a single bad symptom: a recovery which, considering all the circumstances, must be ascribed, I think, to the early date of the operation, scarcely less than to the skill of the operator.

Unwilling as I am to cite cases, in other respects not uncommon, I venture to give another illustration of that obscurity of symptoms, and distinctness of signs, which form (so to speak) our bane and antidote respectively in the diagnosis of intestinal obstruction. A young gentleman of seventeen had been the subject of an easily-reducible inguinal hernia for about twelve months. During this time, over-exertion had, once or twice, brought on attacks of pain and constipation, subsiding in a day or two. About three days before I saw him, he had been seized by a similar (but more severe) attack, at the outset of which he had with difficulty succeeded in reducing the hernia, without at all checking the increasing severity of his symptoms. I found him suffering from great pain, which was referred solely to the navel and neighboring part of the epigastrium, and was unattended by any distinct tenderness of the belly near the site of the hernia. He was feverish, and his pulse was quicker than usual; though this latter symptom was rendered less characteristic by serious disease of long standing in the aortic valves. Vomiting was infrequent; and the watery and bilious fluids it ejected were not traceably fæcal. Nevertheless, from the peculiar character of the pain, and still more, from the dullness (and, I almost thought, fluctuation) verified in the right iliac region, just above the seat of the hernia, I had no doubt that there was an obstruction, probably connected with the neck of the sac. But the eminent surgeon whom I met in consultation thought that the symptoms were due to a colic independent of the hernia, and that any operation was uncalled for. The vomiting soon became stercoraceous; and, not to dwell on the medical treatment adopted, I will only add that, after this symptom had lasted about ten days, the patient's state began to improve, and he finally recovered, with what proved the accuracy of my diagnosis—a radical cure of the hernia. It is not uninteresting to add, that it was only three or four days after the sudden and marked improvement of the symptoms that he passed the first fæcal evacuation; and that this evacuation, a large and solid one, could be distinctly traced in the sigmoid flexure of the colon, by a physical examination of the belly, before it was removed by a repetition of the enema, hitherto in vain administered for the purpose.

*Fluctuation* is, I believe, rarely to be verified in the earlier stages of intestinal obstruction. To fill any length of the colon requires so great and unnatural a quantity of liquid here; to dilate the small intestine, to a width permitting a definite thrill of its liquid contents on

percussion of the belly, requires so great a lateral expansion of this bowel (in which liquid naturally accumulates first in the direction of its length) that fluctuation is rarely an aid to early diagnosis. The bulk of liquid is too small to allow of undulations such as can be propagated through the various substances intervening between it and the surface of the belly.

The *movements* of the obstructed intestine afford a better (because an earlier) aid to the diagnosis of the obstructed state. Obesity can of course obscure their appearance on the exterior of the belly; but, unless excessive, it rarely prevents their recognition. And although, as already mentioned, protracted and vigorous movements of this kind are soon succeeded by the obstructed segment of bowel first becoming distended, and then lapsing into such a state of exhaustion as paralyzes its muscular coats, still their presence, as a diagnostic mark, is not so much prevented, as transferred to some neighboring and higher segment of the intestine. (Fig. 4.) Hence, with few exceptions, these movements may be traced in the walls of the belly covering the affected tube, until the access of that collapse which immediately ushers in the fatal event.

When fully developed, the characters of these movements scarcely allow them to be mistaken. Even at the very outset of an intestinal obstruction, the patient's attention is sometimes called to the peculiar noise and movement which attend what might otherwise be confounded with the ordinary *borborygmi*, produced by mere flatulence. To this characteristic variety of a common incident, soon succeed less noisy, but more violent, movements of the intestine; during which it rises visibly against the wall of the belly, in coils that may be fancifully compared to those of a writhing serpent. As the distension of the canal increases, these movements become more marked; and are often so distinctly seen through the stretched and attenuated wall of the belly, as to allow the observation of a definite peristalsis in the intestine beneath it. And even when, at a later period of the disease, the paralyzed intestine has ceased to offer any of these active movements, the aid they furnish to diagnosis is often replaced by the exactness with which the distended bowel is mapped out on the abdominal parietes; the swelling answering to the tube itself being thrown into relief by hollows, which correspond to the intervals of adjacent loops of bowel. Rarely do the signs of one or other of these degrees of distension fail us, except where some of the accidents or consequences of obstruction have added their own diagnostic character:—where tympanites, for instance, has alike relaxed intestines and belly; or peritonitis has shielded the bowel from all physical examination, by interposing a layer of fluid; or, lastly, rupture of the intestine has suddenly effaced the symptoms of mere obstruction, and plunged the patient into a state of prostration, which is the harbinger of death.

A few months ago I was consulted in a case, in which the diagnosis (as is not unfrequent in the early stage of the malady) turned chiefly on the presence of such slight signs as the foregoing. A gentleman of about sixty-five, who had previously enjoyed good health, (with the exception of a doubtful fever thirty years ago) but had lived rather freely, and had once or twice experienced attacks of constipation, lasting not more than a day or two, became the subject of a kind of vague intestinal dyspepsia, which was attended by violent borborygmi; and which, though at first it allowed his bowels to be relieved by ordinary aperients, gradually lapsed into constipation. When I first saw him, this state had lasted nearly a week, in spite of all that the skill of his medical attendants could suggest. On examination, I found the large intestine was traceable, as an empty and dilated tube, from the sigmoid flexure backward to the cæcum; an observation which was confirmed by the considerable length of flexible tube which had been previously introduced, and by the scanty and scybalous stools which the copious enemata thus administered had brought away. The small intestine formed a packet within the horse-shoe concavity of the colon: it was rendered dull to percussion by an abnormal quantity of contents, but was little distended. A trifling increase of both these characters, near the right iliac fossa, as well as an occasional feeling of pain (or rather weight) here, afforded grounds for referring the obstruction to this region. A slight (but perceptible) rolling movement in the intestinal coils beneath the wall of the belly, and a somewhat less distinct peristalsis, creeping slowly for an inch or so before subsiding, left me no doubt that the case was one of obstruction, at or near the lower part of the ileum. Under appropriate treatment, the patient survived to the seventeenth day of the obstruction—a delay which, prolonging, as it did, chiefly that comparatively painless state in which he lay when I first saw him, not only increased, however ineffectually, his chances of recovery, but gave him an invaluable opportunity for settling his complex affairs.

The *pain* of intestinal obstruction is closely related, both in its nature and amount, to the circumstances which constitute those varieties of this condition hereafter to be noticed. At present we need only distinguish two chief kinds of pain, which, though associated in most instances of obstruction, are essentially independent of each other. They are, indeed, produced by different causes, and belong to different stages of the disease. And hence, one may casually be found to the exclusion of the other, or may habitually predominate in a particular variety of obstruction.

There can be no doubt that in most of the varieties, as well as cases, of obstruction, the symptoms begin with pain, which is sometimes sudden and violent, and still oftener rises to great intensity in a very short space of time. As regards its character, there is nothing to distin-



guish it from the pain of enteritis. It is little affected by any pressure, short of a deep and forcible impulse on the obstruction; and, with all its violence, remains tolerably distinct, both from the kind of pain which succeeds it, and from the well-known burning tenderness of peritonitis. Pathologically, it is certain that it often follows the occurrence of the obstruction with a rapidity and suddenness suggesting an interval of scarcely more than a minute or two; and that, other things being equal, its amount and duration vary with the degree of that local injury which is associated with the production of the obstructed state; so that—to anticipate some of the details of the next Lecture—it is usually intense in intussusception and the impaction of gall-stones; less marked in the obstruction produced by twisting of the bowel, or by bands and adhesions; scanty in the obstruction of stricture; and almost absent in the obstruction caused by the impaction of feces in the large intestine.

The physiology of intestinal pain generally, as well as the study of the degrees of obstructive pain just alluded to, concur in referring this abnormal sensation chiefly to derangements in the bloodvessels of the obstructed part. Contrasting, for example, the pain produced by the mechanical injury of a part within the domain of common sensation, with that excited by a similar lesion in a part where (as in the intestine) sensation of this kind is altogether abnormal, we may find a distinction in the fact—that the first immediately follows the injury; that the second only succeeds it after an appreciable interval of time. And while the anatomy of obstruction constantly affords evidence of that extreme disturbance which the neighboring circulation undergoes, even in the earliest stages of the process, the arrangement of the sympathetic nerve with reference to the vessels thus involved suggests that, from this coincidence, we may deduce a relation of cause and effect. When, for instance, we find that a soft cylindrical fibrous band, possessing so little cohesion as easily to tear asunder by the slightest tractile force, can, nevertheless, by pressing on the free margin of a polished flexible tube like the small intestine, speedily give rise to a pain, which, in the course of one or two minutes, heightens into downright agony; when we find that such a symptom is often followed by detection, in the dead body, of vivid congestion, accurately defined by this band, and even of large extravasation in the neighboring mesentery or omentum; when we further consider how predominant a proportion (to say the very least) the nerves distributed to vessels form of the total nervous mass pertaining to the abdominal viscera,—we can scarcely evade the conclusion, that the vessels themselves mediate this pain, and that it is to their distension—whether as a merely physical, or (as is more probable) a vital and nervous act—that we must ascribe the intense suffering

which soon follows the sudden occurrence of a mechanical obstruction.

The second variety of pain is, on the whole, the more frequent and characteristic of the two. For while the preceding is shared by enteritis, and is, as it were, only incidental to obstruction, this belongs exclusively to the obstructed state, and is linked, in a chain of closest dependence, with its characteristic phenomena. It is, indeed, the pain of intestinal distension. As such it follows (and almost measures) that state of unnatural fullness which gradually obtains above the obstructed point. And hence it not only varies with the degree of that general accumulation which involves the whole of the upper segment of intestine, but its paroxysmal character—the remittent (or even intermittent throes with which it comes on every few minutes, in visible coincidence with the peristalsis of the bowel,—points to a closer and more immediate relation of the same kind. Perhaps some would suggest that these paroxysms of pain are caused by undue muscular contraction of the intestinal wall; and are, in so far, analogous to a cramp of the leg. But since the paroxysmal character is often present when the peristalsis, though more visible, seems scarcely more energetic than usual; and even appears to be most marked when extreme distension has already paralyzed the intestine for some distance above the obstruction; it may be more plausibly referred to the sudden increase of distension effected by the pressure of peristalsis on that mass of liquid (Fig. 4) towards which it sets. In consonance with such an explanation, these paroxysms are sometimes aggravated by the movement of breathing.

Whether this variety of pain is, as respects its mechanism, more nervous, and less vascular, than the foregoing, it little avails us to inquire. The two kinds of pain may, indeed, be identical in this respect. But, fully conceding the depth and frequency of the vascular changes which mere distension tends to bring about, the phenomena of slighter intestinal disorders, and a consideration of that thorough and energetic displacement which extreme distension applies to every constituent tissue, nervous as well as vascular, of the intestinal wall, throw doubts on such an identity, if, indeed, they do not outweigh the evidence in its favor.

As the disease advances, this variety of pain becomes less prominent, and is gradually obscured by the more continuous and uniform pain produced by local inflammation. In spite of the increasing distension of the obstructed bowel, the recurrence of the rhythmic intestinal contractions ceases to correspond with the paroxysms of pain. The peristalsis intermits for periods of increasing duration; and returns with a constantly decreasing energy. The patient's sufferings, instead of remitting, offer scarcely any variation in severity. And, finally, though the local lesions which usually precede death,



sometimes, by their very depth and extent, render his last hours a period of comparative ease, it is, I think, more common for the agony of the disease to be rather obscured and hidden, than really removed, by the prostration and collapse which announce its close.

The symptom of *constipation* need not be dwelt upon here. We have already noticed that complete occlusion of the bowel is not incompatible with the emptying of its lower segments by an ordinary act of defecation. Those real variations in this symptom, which involve some scanty transit of the intestinal contents through the obstructed part, belong to the next Lecture.

The pathology of the second stage of intestinal obstruction is best summed up in the statement, that it is essentially an enteritis, which is partly superadded to the foregoing condition, partly developed out of it. In other words, though we might distinguish its causes into two series, of which one is common to it and to the first stage, while the other is formed by the various incidents of that stage itself, (and might illustrate this distinction by cases, in which each of these two series has been chiefly, if not solely, concerned in its production,) yet it must be confessed that, in most instances, they cannot be differenced from each other. Much as I could wish to discuss the important subject of enteritis, and strong as is my conviction, that this mechanical inflammation (if I may use so objectionable a phrase) is not only, from its frequency and simplicity, the most accessible side on which to approach it, but a state which offers us the deepest (as well as widest) analogies to some other acute diseases of the bowels, time warns me to forego any but the most casual glance at this topic. In the few minutes that remain to me, I can only notice three leading phenomena of this stage of obstruction:—local paralysis, local inflammation and general collapse.

The signs and symptoms of obstruction concur to show that, for a considerable period prior to the fatal termination of this state, the segment of bowel immediately above the obstruction is usually bereft of all power of active contraction. And there can be no doubt that the distension by which this paralysis is preceded constitutes its chief cause; that the contractility of the unstriped muscle of the intestine is destroyed by the undue stretching it undergoes, much as that of a striped muscle is instantaneously annihilated by a similar injury.

On the other hand, it seems equally certain, that this paralysis is often partially due to inflammation, specifically relaxing, through the nervous system, the muscular wall of the affected bowel. At any rate, if not a fully-developed inflammation, to a condition corresponding with the earliest stages of enteritis; to a relaxation, such as appears to me the true import of the "distension" which that excellent inductive pathologist, Abercrombie, long ago pointed out as the earliest and most constant change seen in

the necropsy of inflammation of the bowels. This conclusion is almost unavoidably deduced from a comparison of the mechanism of the obstructed bowel with some interesting facts occasionally verified in practice. A hernia, for example, has been skilfully relieved of all strangulation by the knife, and yet the patient has died with the bowel above the stricture distended with feces. And just as, in such a case, the passive contraction present in the bowel corresponding to the seat of the strangulation would necessarily have been overcome by the application of an active contraction to any part of the mass of distending liquid—is overcome, indeed, in a moment, by the slightest attempt at dilation in the dead body—so the same lesson is occasionally taught by the histories of obstacles in the large intestine, where the constricted part has been penetrated by a bougie or elastic tube, and where an enema has thus been introduced into the dilated segment above, without any relief to the obstruction, or any delay of its fatal issue.

The *inflammation* into which this paralysis merges by a continuance of the obstruction, appears to affect the three coats of the bowel—serous, muscular, and mucous,—in somewhat different degrees, in the several varieties of the process. As regards the simpler kinds of obstruction, a dark, sloughy, or gangrenous state of the submucous areolar tissue is, perhaps, the commonest result of such inflammation met with in necropsies. This state, which is often associated with great extravasation, is explained by the anatomy of the areolar tunic, and especially by its laxity, and by the dense network of arteries and veins which it encloses. Long prior to this sloughing, however, the free surface of the mucous coat is the seat of a croupy exudation, consisting chiefly of an abortive cell-growth formed by its altered epithelium. Softening and ulceration, or even sloughing, of its whole thickness in various parts, are the next changes to occur; and may be seen, to a variable extent, in most fatal cases. The muscular coat, thinned as it is distended, is observed and lost by the extravasation and sloughing in which it is involved with the adjacent submucous areolar tissue. The peritonitis by which the serous coat shares this inflammation has an import depending chiefly on the inflammatory process set up; which, according as it is adhesive or suppurative, greatly modifies the sufferings of the patient, and the rapidity of his death. Large effusion of liquid is rare; and as seen in examinations after death, is sometimes partially due to the changes which accompany, or immediately succeed, this event.

The same suggestion also applies to the accident of *rupture*; which, though unmistakably seen to occur during life, and even to be immediately brought about by incautious manipulation of the abdomen of the sufferer, is I believe, far more frequently produced after death, as an incident of incipient putrefaction, or even

of the necropsy itself. In the thinned, softened, pulpy condition to which, before death, inflammation often reduces the obstructed bowel, it requires but a very slight increase of the intestinal gases, and a very inconsiderable progress towards the putrefactive dissolution of the tissues of the corpse, to give that increase of pressure, and decrease of consistence, which respectively effect, and permit, the bursting of the bowel. The detachment of those pasty adhesions which are often thrown out to prevent or circumscribe, a rupture or perforation during life, is sometimes brought about in the same way; and is a contingency which, taken in conjunction with the foregoing, and with the possible mechanical rupture of the intestine, in even the most careful post-mortem examinations, reduces the real frequency of this occurrence, as an event or termination of intestinal obstruction, to something considerably less than the records of this state would suggest.

The *collapse* which usually ends the fatal cases of obstruction is too complex a product of its various stages and incidents to be summed up by any common description. It may anticipate, and prevent, the development of both stages. In its worst form, it merges into delirium, ending in coma. In milder degree, it often allows the sufferer to retain full possession of his intellect to the last; the moment of death being unannounced by any of the symptoms usually preceding this event. The latter variety of collapse, which is shared by so many other diseases of the abdominal viscera, is sometimes independent of any severe inflammatory lesion of the bowel; and hence appears to be producible solely by the pain and distension which constitute the chief symptom of the first stage of obstruction. And, in correspondence with such an explanation, experience shows that this form of collapse, however severe or complete, does not forbid all chance of the patient's recovery, if the obstruction be removed by any of those means, natural or artificial, which I hope to notice in the two subsequent Lectures respectively.

### St. Mary's Hospital.

#### PRACTICAL CLINICAL REMARKS,

ON

#### PERICARDITIS, AND EFFUSION INTO THE PERICARDIUM.

By JAMES ALDERSON, M.D., F.R.S.,

PHYSICIAN TO THE HOSPITAL.

Gentlemen,—On some occasions the approach of death is so marked, that it is impossible to predicate the interval between our examination and dissolution with tolerable certainty. Now there are several reasons why I should recommend, as a general principle to be observed in the course of study on which you now proceed,

that you should bestow especial care in nothing and in storing in your memory all symptoms which evidence the approach of death. It is an exercise which affords the most palpable and unmistakable lessons. The signs and symptoms of disease during life, from which either conclusive or speculative opinions have been formed of the internal alterations of structure, can, by this means, be at once compared with the actual existing lesions after death. The truth of the opinions given during life may be verified, or their fallacy made known; and the latter result, if less satisfactory, may prove even more instructive of the two; for a mistake sends back the inquirer to the evidence of the living signs and symptoms whilst they are fresh upon the memory, corrects the halting reasoning, and helps to lay down axioms for better judgment on the next occasion. Thus, as a means of learning accurately the dependence of symptoms upon structural changes, a close attention to the terminating symptoms is immensely valuable, and the study is facilitated by the fact, that towards the approach of death, remedial measures are discontinued, which in the earlier stages are apt to mask and complicate some of the symptoms proper to the disease. In another point of view, attention to the signs of closing life will prove a valuable study. In your future practice no attainment will help you more to gain and fix public confidence than the power of prognosticating, with precision, the remaining interval before the fatal termination of a case. It is worth while to neglect no means of winning confidence by honorable means, not for selfish vanity, but because influence is not only valuable, but necessary for any medical aid to be of full service to the recipient; the knowledge which I recommend may also save much aggravation of domestic distress, guarding against premature terrors, or affording due preparation for a fatal event.

I dwell upon this the rather because when you adopt general practice, as your course of life, you will no longer be able to obtain post-mortem inspections by which to correct and guide your diagnosis. Even if the vicinity of an hospital were to afford such opportunities, the full occupation which I trust awaits you would not permit such a course of study. The revelations of the dead-house can alone enlarge our knowledge of disease, and nothing but the continual comparison of symptoms with the actual morbid changes can confer the power of distinguishing obscure diseases during life. Great professional reputations can only be honestly gained by such a searching line of investigation; and while regretting that the general practitioner, not having charge of hospitals, suffers a disadvantage in this respect, I am the more anxious to persuade every student to value his present opportunity, and use it with untiring diligence. One of the greatest ornaments of the profession, who knew disease more accurately than almost any other physician, observed to me

not long before his lamented death, that he was not progressing in his knowledge of disease: "what I regret so deeply," he continued, "is the dead-house; for I no longer add to my knowledge, and scarcely keep up what I have already stored. If any one," he said, "would give me my professional income, and restore me my hospital, I would infinitely prefer it, for without that the scientific interest is gone."

Two of the cases to which I shall allude, will give you specimens of post mortem teaching, and the advantages to be gained by it. The first, during its early stage, was not exactly diagnosed, and the real state was not discovered till revealed by further symptoms. The value of the post-mortem examination consisted in explaining the earlier symptoms, showing the infinite importance of early knowledge, by which the treatment might have been guided. The second case was most happily diagnosed, the case itself being intensely interesting, chiefly because the effusion into the pericardium exceeded in extent almost any case that I know to have been recorded. I shall mention a third case of the same disease (in Victoria ward) which has terminated favorably. Of course, in this last case, the *experimentum crucis* is happily wanting; but guided by knowledge gained by other post-mortem examinations, we are able to place the signs and symptoms of it in the same category as the two preceding.

*Pericarditis; sero-purulent collection in the pericardium; fatty degeneration of the liver.*

CASE 1. (Notes by Mr. Walter Coulson, house-surgeon).—Mary Ann F—, aged forty-four, admitted Oct. 12th. Fair complexion; has generally enjoyed good health. Five weeks before admission she became ill, with severe pain in the left side over the heart, and also with dyspepsia. Her face is now tinged yellow; the conjunctiva dark yellow; she is very thin. States that she still suffers the same pain in the chest, and also that her stomach is disordered. Her pulse is small and irregular; it is scarcely perceptible. The heart's impulse very weak; beating irregularly; tumbling to and fro. Lungs on percussion sound healthily. She has never had rheumatism so far as she can remember. She coughs on lying down but says she sleeps well. The line of treatment, which you have all observed, began by blisters to the region of the heart, and occasional leeching. You will bear in mind the remarkable expression of relief immediately after the first blister had risen—an effect which I hope to explain by the next case. The pulse became regular; the heart's action more natural, and there was no longer complaint of pain until the 16th of November, a few days before her death, when the cough returned, together with pain in the region of the heart, and an almost imperceptible pulse.

Nov. 21st.—*Post-mortem examination forty hours afterwards.*—Face congested; both legs

oedematous; veins over the dorsum of the feet, and around the ankles, tortuous and varicose. Both lungs congested (hypostatically) at back part of lower lobes; elsewhere healthy; middle and lowest lobe of right oedematous; this lobe was more congested than any other part. The vessels when cut across exhibited firm black clots. Pericardium nearly one eighth of an inch thick; fleshy cutting, resembling the ventricular wall substance; the inner surface of the pericardium, as well as that covering the heart, were covered with soft, recent-looking bands and layers of plastic deposit; at the base it was arranged in honeycomb shapes, but nearer the apex lengthened into bands. Heart small, hard, contracted; the left ventricle contained some black clots. The mitral valve felt smooth; the aortic semilunar valves competent. The pericardium, where adherent to the diaphragm, thickened; hypertrophied so as to resemble very much the auricles, being raised, puckered, and thick, like them. It contained a large quantity of sero-purulent fluid, deep-colored, to the extent of about a pint, which escaped when the first incision was made into it. Both pleurae held a small quantity (quarter of a pint each) of dull-brown fluid. The liver pressed upwards the right lung as far as the lower border of the third rib; it extended downwards into the greater part of the right lumbar region, across the upper part of the umbilical into the left hypochondriac; soft, friable on pressure; of deep-brownish color; on section, presented the hepatic veins much congested, and largely-diffused fatty degeneration. Gall-bladder distended. Kidneys apparently healthy; in the left kidney several small cysts containing a curdy-looking fluid. Stomach and intestines healthy. Spleen healthy, as also the pelvic viscera.

Weight of the lungs and heart, four pounds, one ounce; liver, four pounds, nine ounces and a half; spleen, five ounces and a half; kidneys, six ounces and a half each.

*Remarks.*—The smallness of the pulse and its irregularity, so frequently alluded to by Laennec, Elliotson, and others, in pericarditis, were in an eminent degree present in this case. There was also a tumbling, cantering kind of motion of the heart, as described by Dr. Williams, but nothing at all approaching to friction sound,—indeed, the separation of the heart from the pericardium by the effused fluid completely prevented any approach of the heart to the pericardial surface to produce such a sound. The extent of the effusion (about a pint) was not sufficient to determine the diagnosis by means of percussion: this confirms, in some degree, the opinion held by authors, that until the effusion is considerable, percussion does not elicit a dull sound. It is somewhat extraordinary that, with such extensive alteration of structure, there should have been little complaint of pain. After the application of the first blister, the patient expressed herself as quite relieved

*Pericarditis, with extensive effusion into the pericardium.*

Case 2. (Notes by Mr. Milson, clinical clerk.)—John H—, aged thirty-six, a painter, married, admitted Jan. 20th, 1859. Complains of cough, and also of extreme dyspnoea, which is so distressing as almost to prevent his speaking. Countenance pale and anxious. Is unable to lie down, and is obliged to remain in bed in a kneeling posture, supported on his knees and elbows. The slightest attempt to turn produces distressing shortness of breath, so that it is quite impossible to examine the chest. On examination of the dorsal regions of the lungs, complete resonance, and good though short breathing, are heard, together with complete vibration communicated to the hand through the chest walls during cough. He states that he has had great pain across the chest and down the arms for a month previously to admission into the hospital. Pulse small, irregular, undulating, and quick; urine high colored, depositing thick red sediment. He was cupped over the back, but in consequence of the great alarm excited by the cupping, almost to convulsions, leeches were applied instead, with relief to the breathing.

On the 22nd he bore to be placed on the back, in order to have the chest examined. He then complained of great pain in the region of the heart. The left chest appeared slightly bulged forward; and on measurement, the side was found to be half an inch larger than the normal proportion. On percussion, extreme dulness was found to exist over the heart and for some distance round. On examination with the stethoscope, the heart's sounds were so distant as to be scarcely heard—a sort of muffled sound; there was also an approach to murmur with the first sound; and a sort of wheeze might, with great care, be distinguished.

Pericardial effusion to a considerable extent was at once suspected, and as the case progressed, the conviction of its existence was fully confirmed. A large blister was applied over the heart with great relief to the pain, but the difficulty of breathing remained as great as ever. He had a troublesome dry breathing. Not to give the daily symptoms and treatment, I find it recorded that on

Feb. 1st—Patient feels better to-day; breathes more easily.

3rd.—Says that he is much relieved by dry cupping, especially over the ensiform cartilage, where "it catches him."

10th.—Seems considerably improved; is able to sit up in the bed and to take some food. Is very anxious to have a glass of beer.

15th.—Not nearly so well. Was indulged with beer yesterday. More pain in the chest and during breathing. Urine very high colored, red, with thick deposit.

Shortly after having been carefully and rather lengthily examined by one of the physicians of

the hospital, he began to breathe deeply and rapidly, as he had been requested to do during the examination, and gradually became furiously delirious; his maniacal excitement could scarcely be restrained. He was removed to a separate ward in the basement, but his shouting could be heard in the rooms above. He was sufficiently sensible, when spoken to, to know all of us; but never complained of any pain or difficulty of breathing after the delirium set in. He died on the 17th.

*Examination of the body, twenty-four hours after death.*—Body of a tall broad-chested man; marks of a large blister over the left side; complete dulness on percussion over the whole front of the thorax. On removing the sternum, neither lung was visible, in consequence of the enormous distension of the pericardium. The pericardium, presenting a large fluctuating mass, measured twelve inches across. On opening the sac, it was found to contain three pints and a quarter of a dark-amber, and red-colored fluid, mixed with blood. The pericardium was very much thickened, especially towards the heart's base, where it was half an inch in thickness. Both its visceral and parietal surfaces were covered with false membrane; that covering the heart was of an arterial red-color, and presented a beautiful reticulated appearance over its entire surface. The false membrane covering the parietal portion of the pericardium was more developed towards the base than towards the apex of the heart. There were numerous long, dark-red adhesions, bands, or cords of lymph, stretching to the extent of an inch or more, from the heart's base to the pericardium; and the whole surface of the heart was covered with long bands of a similar kind, from two to three inches long, hanging like a thick fringe from the heart's surface, their free ends floating in the effused fluid. Lungs: There were some old pleural adhesions on the right side, and both lungs were pressed backwards and upwards by the fluid in the pericardium, but neither pleura contained any fluid. Both lungs were congested, but in other respects healthy. Liver: Somewhat congested, but otherwise healthy. Kidneys: Both kidneys healthy, but the right renal capsule four times the natural size, from tubercular deposit. The left supra-renal capsule contained a hard, encysted, tubercular mass, of the size of a small bean. The glands running by the side of the abdominal aorta also very enlarged, from tubercular deposit.

*Remarks.*—You will expect me to say from what signs and symptoms I formed a correct diagnosis in this case. It was evident, from the peculiar and constrained position of the patient in bed,—on his elbows and knees, being unable to turn or to lie down at all; from his great anxiety of countenance, his great difficulty of breathing, his quick, small, tremulous, and irregular pulse, and from the great pain he experienced over the chest,—it was evident, I say, that disease of a very grave character was pres-

ent; and so soon as he permitted the front part of the chest to be examined, the great and extended dullness to percussion over the region of the heart, coupled with the weak and tremulous, quick, irregular pulse, and the distant, muffled sounds of the heart itself, under the stethoscope, at once declared the pericardium to be the seat of effusion to great extent, and the heart to be inflamed. An equal amount of dullness on percussion might have existed with more hypertrophy, as in the case of the girl L—, in Carlisle ward, which you saw a few weeks ago; but in that case you will remember the sounds were loud and long, and the impulse great, and the heart's movements could be distinctly seen. The large amount of effusion in this case, exceeding almost that of any recorded case, is not the only peculiarity to be noticed. I may observe that we found here to guide us none of the usual signs of that form of pericarditis which usually accompanies acute rheumatism, where we get as the first tangible sign a rustling, or brushing, or friction sound, or, "to-and-fro" sound, as it is called when developed. This friction sound, as you know, depends upon the exudation of plastic matter on the visceral and parietal surfaces, and on their rubbing together during the heart's action—a form of exudation depending probably on a higher grade of inflammation than that which results in the effusion of serous fluid. This sound is seldom of long duration, and is either stayed by adhesions, or by such amount of effusion as prevents the surfaces coming into contact during the heart's action. When effusion proceeds beyond a certain quantity, all approach of the two surfaces is effectually prevented by its presence: the heart during the systole can no longer reach the pericardium; and as the two surfaces do not touch, no brushing sound is elicited, notwithstanding the surfaces may, at the same time, be roughened by deposited lymph. The part to which I more particularly wish to direct your attention is the fringed state of the heart itself, for I have nowhere seen any attempt at explanation of these fringes of lymph which cover the heart's surface in cases of pericardial effusion. On referring to the inspection, you will see that posteriorly, and near the large vessels, where the motions of the heart are more confined, numerous long bands, similar to these shaggy fringes of lymph, still exist, attached both to the heart itself and to the pericardium. It is evident, then, that all these fringy, shaggy bands of lymph have at one time been attached to the pericardium, and that they have subsequently been gradually stretched by the effused fluid as it collected; and after a certain time, unable to bear further distension, they have given way at their extremities or attachments, or have been torn across, and then left to hang free, like a fringe, from the heart's surface or from the pericardium.

And now we are in a position to explain also how the fluid contained in the pericardium was

bloody, and that there were clots of blood in it; for when these organized bands of lymph were separated or torn from their attachments to the heart or the pericardium, their torn vessels would necessarily let blood escape. Thus, then, we are able to recount, not only for the mode of formation of these shaggy, fringy bands, but for the presence of blood and of bloody fluid found in the pericardium, as well as for the deep staining of the heart's surface with blood.

There is another point worthy of notice in the case of M. A. F—, whose heart was also covered with shaggy-fringed bands of lymph, as in this case—viz., that the greatest relief was acknowledged to have taken place after the first blister had fairly risen. It is probable this relief may have occurred *coincidentally* with the rupture of these bands by the gradual distension of the pericardial sac, and thus the heart left comparatively free to act without hindrance by the adhesions previously existing.

In F—'s case, the largest adhesive bands were to be seen at the apex of the heart, where the greatest amount of motion naturally takes place, and where the adhesions would be most stretched by such motion.

In H—'s case, they were left unbroken only at the base, and near the large vessels, where the motion is so much less than at the apex.

The redness of these bands is probably owing to the great and continued motion of the heart, continually rupturing newly-formed fragile capillary vessels within their structure.

*Acute rheumatism, with effusion into the pericardium, accompanied with pleurisy.*

CASE 3.—(Notes by Mr. Milson, clinical clerk.) Martha G—, aged seventeen, servant, admitted Feb. 25th, 1859. Had had rheumatic fever when seven years old; had been ill for a fortnight, and was carried to bed immediately upon admission. The knees and wrists were much swollen. For a week she has been suffering from extreme shortness of breath, and has been obliged to be propped up in bed in order to breathe, resting on her back. During that time she has suffered great pain all over the chest. She now complains of pain in the limbs, and over the chest, but especially at the lower part of the sternum, extending over the cardiac region. On percussion, great dullness is experienced over the heart, extending around to some distance. On examination by the stethoscope, the heart's sounds are very distant, muffled, and can scarcely be distinguished. Pulse quick and small; countenance dark and bloated; mammae very large, apparently swollen; sibilant râles all over the chest, but especially on the left side.—Diagnosis: Pericardial effusion, accompanied by inflammation of the bronchial membrane, especially on the left side.

Feb. 26th.—Breathing very difficult and noisy; sibilant.

27th.—Cough troublesome, with increase of

pain over the heart; pain and crepitation in the lower lobe of the left lung, with increased difficulty of breathing.

28th.—Pain on the left shoulder and down the arm nearly gone; crepitation in the lung less marked.

March 3rd.—The breathing again difficult, and the *alæ nasi* in continual action.

4th.—Still complains of difficulty in breathing—"cannot get her breath."

Up to that time the treatment had been by leeches daily, and calomel, with compound ipecacuanha powder, in small doses, repeated three times in the day, without any constitutional action being induced. Mustard cataplasms were now applied to the knees, and a large blister was put upon the left side.

On the 5th, the pain and difficulty of breathing, and the oppression at the scrobiculus cordis still persisting, eight ounces of blood were taken from the arm, with marked, immediate relief, after which the breathing became easy, and the distressing cough gradually disappeared. Under the continued use of the calomel and opium she progressively recovered.

On the 11th, there was a slight return of pain and swelling in the joints, especially in the wrists; in the right wrist, fluctuation could be detected in the sheath of the extensor tendons.

I wish you to observe that there was no *extreme* smallness of the pulse—no irregularity as in the other cases; and thus, probably, no adhesions of the heart to the pericardium. When there is no valvular disease, I conceive these irregularities, as noticed in the case of F— and H—, to arise from the adhesions interfering with the free action of the ventricle. Perhaps in this girl's case a lower grade of inflammation was present, which resulted in the effusion of serum only; or the state of the constitution may have been less sthenic. This supposition would enable us better to understand the complete recovery of the case, the fluid being of a nature to be easily absorbed.

The patient being now convalescent, the sounds of the heart are to be distinctly heard by the stethoscope. The young woman presents an extraordinary contrast to her appearance on admission: her bloated look and dark complexion have entirely disappeared, as well as her former distressed expression.

In explanation of the way in which, I believe, relief takes place in consequence of bleeding, I wish you to understand that by venesection we reduce the heart's force—the heart's power; and consequently, we reduce the velocity—the force—of the blood in the small inflamed vessels in that part of the pleura where effusion of lymph commences, simultaneously with the localization of the inflammation. The costal pleura, from being more freely supplied with nerves, is more sensible of pain than the pulmonary pleura; and I believe it is the costal pleura which is the great seat of pain in pleurisy.

It is important to observe that in the two former cases there had been no evidence of rheumatic inflammation having attacked the joints; whereas in this last the joints were first affected. We infer from this that in the first two cases the disease was localized in the heart and pericardium wholly; whereas in this girl's case the heart affection may be regarded as a complication. The joints were to the very last, serving as a diversion, conducing to her greater chances of recovery.

### St. Bartholomew's Hospital.

#### PRACTICAL CLINICAL REMARKS,

ON

#### CASES OF COMPOUND FRACTURE AND OTHER INJURIES ABOUT THE SHOULDER-JOINT,

BY FREDERICK C. SKEY, Esq., F.R.S.,  
SURGEON TO THE HOSPITAL.

GENTLEMEN—As I have lately had the opportunity of treating some interesting cases of compound fracture, I propose to-day to direct your attention to them. The first case is that of S. B—, aged twelve, (Abernethy ward, bed 11,) who was brought into the hospital on the evening of the 25th of February last. He had sustained a severe injury, resulting from machinery. A large wound presented itself on the upper, inner, and back aspect of the right upper arm. The triceps muscle was largely exposed. The brachial vessels and nerves were uncovered of integument, and were invested only by the fascia immediately surrounding them to the extent of from four to five inches. The wound extended upwards into the axilla. The humerus was broken about an inch below its head, and the lower portion was projecting upwards from the wound, to the extent of nearly four inches. The whole of this projecting portion was entirely denuded of periosteum. Its broken extremity was pointed and ragged. The integument had so far retracted as to expose to the eye a large and very formidable wound, on the surface of which all the textures of this region were apparent. The operating theatre was "cleared for action." The boy was placed on the operating table, and chloroform administered. I made an ineffectual attempt to restore the bone to its natural position, by extending the arm and pressing the bone inwards. However, I determined to make the attempt to retain the limb; and with this view, about two inches and a half of the protruding bone were removed by the saw, by which the remaining portion was readily reduced within the wound in the triceps muscle. Having replaced the soft structures in some order of relation to each other, the integuments were brought together throughout the entire length of the laceration, and united by sutures. The surface was covered with a thick

mass of cotton wool and the arm and chest carefully rolled. All that now remained was to bring the two ends of the original bone nearly into apposition, and this was effected by a few turns of the roller round the olecranon, with the arm bent at a right angle at the elbow-joint. By this means the arm was drawn upwards towards the shoulder-joint till the bones were felt to be in contact. When the boy was placed in bed, the limb was laid on a pillow at an angle of about seventy degrees with his body.

In the course of the ensuing three or four days, wine was freely administered to the boy, with a view to uphold his vital powers, and to protect him from the effects of the shock which both his nervous and circulating systems had sustained. On the fifth day, a gutta-percha splint was applied upon the back of the arm, and fixed above to his trunk. Forty-two days have now elapsed since the accident. The boy has not had a bad symptom. The outer wound has entirely healed, and the bone has firmly united to its fellow.

#### *Case of Compound Comminuted Fracture of the Humerus.*

W. S——, aged sixteen, (Harley ward, bed 1,) was admitted Feb. 28th, having fallen under the wheels of one of the large omnibuses. The fore wheel passed over his right arm immediately below the head of the bone, crushing the shaft, and severely lacerating the muscles both in front and behind. The fracture was not only comminuted, but compound; and the fragments appeared, on examination, to be driven in many directions, one portion lying obliquely behind, another appeared displaced from the line of the original bone, and projecting forwards and inwards. None of these fragments were sufficiently loose or insulated to warrant the attempt to remove them. The wound through the integuments was formed in the front of the arm, and communicated with the broken bone through the deltoid muscle. The vessels and nerves of the arm were, to all appearance, uninjured.

Every attempt made to replace the broken portions of the shaft in their natural relation, or to restore the form and rotundity of the limb, failed. Some time was occupied in endeavoring to mould the arm by extension and gentle rotation, but the broken fragments remained irreducible, two sharp-pointed portions projecting, one in front, the other backwards. The integuments were separated by extravasated blood, yet in a fluid state. Permanent extension of the arm, at a right angle with the body, was made by means of two splints, the part being immediately surrounded by an ample quantity of cotton wool. The boy was ordered four ounces of wine daily. He progressed well during the first week or eight days. He then became ill and feverish, his pulse rapid, and his skin hot. The integuments ulcerated, two or three wounds formed in the skin, and the pointed extremities of two fragments became exposed. The

back of the arm was now supported by a single long splint, and the wound was exposed, and lightly dressed. Full doses of liquor chinchonæ were ordered, and two ounces of brandy in addition to the wine. He quickly rallied, the wounds became healthy and granulated, and the bone is uniting firmly. The projecting points are uncovered, and will, no doubt, require the aid of the saw or the forceps for their removal.

#### *Case of Separation of the Epiphysis Humerus.*

F. H——, aged fifteen, (Harley ward, bed 10,) admitted Feb. 28th, with a fracture of the neck of the left humerus, caused by a severe fall. The accident produced a good deal of contravasion of blood in addition to the fractured bone, so much so as to render the diagnosis as to the exact situation of the fracture difficult,—that is to say, whether a separation of the epiphysis, or a fracture of the shaft immediately below it. The bones were fairly adjusted without much difficulty, and were found to retain their mutual relations to each other more readily by bringing the arm to the side of the body and placing a full-sized pad in the axilla. The elbow was bent at a right angle and fixed across the chest, and the apposition of the bones was retained by means of two splints. They united firmly by the termination of the fourth week, and the boy was discharged on the thirty-first day.

#### *Case of Separation of the Epiphysis, and Splitting of the Shaft of the Humerus.*

J. L——, aged thirteen, was admitted into Abernethy back ward, bed 12, on March 30th, with a fracture of the left humerus at or below the epiphysis. The difficulty in determining the exact position of the fracture was due to the form of the lower end, which, being pointed rather than flat, raised a doubt as to whether the separation had taken place along the entire line of the epiphysis. It was 'put up' by my house-surgeon on his arrival, at the above date, but, the splint becoming loose, the ends separated from each other, and the shaft of the bone was drawn inwards by the pectoralis major muscle. I replaced the bones under chloroform, but not without difficulty. On extending the arm, however, they again separated, and the lower portion projected upwards and inwards. By bringing the arm to the side, neutralizing the action of the pectoral muscle, and applying a large pad in the axilla, the apposition of the bones was rendered tolerably perfect. A long splint for permanent extension was subsequently applied. The boy is yet under treatment, with a reasonable prospect of a nearly perfect arm.

*Remarks.*—With respect to the first of these cases, that of compound fracture with protruded bone, had I suggested amputation of the limb, I think no voice would have been raised in favor of its retention. The integuments were much torn, the muscles lacerated, and the bone protruded. The injury was large,—so large, that



years ago I should not have hesitated in immediate amputation of the limb. But the more experience we acquire, the firmer should be our reliance on the boundless resources of Nature; and I resolved to retain it. If I take a small instalment of credit for my resolve, I fear I must plead guilty to a fault in the treatment; and as this treatment raises a question in pathology, I will fairly state it. The length of protruded bone was three inches and a half: by pressing back the integuments I could expose upwards of four inches entirely denuded of periosteum; and the whole of this portion could have been removed without difficulty. Now the warrant for the division of this bone was twofold: 1st., it was in its present position irreducible; and, 2nd., it was denuded of its periosteum.

If, in a compound fracture of the shaft of a long bone, the portion protruded be considerable, supposing it to exceed two or three inches in length, and the attempt to reduce it by ordinary force fail, we have no alternative but that of sawing it off, either partially or entirely. On every account, so much of the bone only should be removed as will facilitate the reduction of the remainder. Beyond this, we do injury. Then, as regards the consideration due to the bone being stripped of its periosteum, the opinion prevails, perhaps too generally, that the denuded bone will die. Why should it die? Bone does not depend exclusively on its periosteum for its nutrition, any more than the healthy supply of blood to the leg depends on the femoral artery, or that of the arm on the brachial. While we acknowledge the great powers of the periosteum in the formation of bone, we have no evidence, so far as I know, that the destruction of this membrane is fatal to living bone in recent wounds. On the contrary, we have sufficient examples of denudation of the cranial bones in injuries of the head, in which the bones retain all their health in vitality, and in which, doubtless, either new periosteum is formed or the old becomes again adherent.

When a bone so circumstanced is replaced, it is surrounded by living structures again brought into contact with it; and such is the affinity of living parts for their natural supply of blood, and so rapid is the formation of new vessels, that it would appear to be contrary to all analogy that such bone should die from the want of ample nutrition. Still there is another condition demanding calculation,—namely, the nature of the textures by which it is surrounded. The soundness of the proposition to retain bone entirely denuded of its periosteum refers only to such examples of injury as will ensure for its future sustenance the immediate contact of healthy textures. When a bone is simply forced through the contiguous muscle, it is not unreasonable to infer that the disorganization of parts is not so great as to interrupt the healthy progress of union of the bone with its new periosteum; but in cases of great contusion of muscles, of laceration and of disorganization of the

textures around, our experience obtained from the treatment of compound fracture warns us, I think, to place but a limited reliance on the co-operation of such damaged structures in the restoration of periosteum to denuded bone. Where, therefore, the injury to the soft parts is great, I would counsel the removal of a larger portion of protruded bone: where the injury is obviously inconsiderable, so much only of the shaft should be removed as is requisite for its reduction.

Another important element in the consideration of this question is obtained from the subject of age. In youth the curative processes are more active, the health more vigorous, and we may rely on the resources of Nature with more confidence than either in matured manhood or advancing life. The ages of these boys were twelve, sixteen, fifteen, and thirteen. In this respect, there is a remarkable difference in favor of early life, of which fact this case of Solomon B— may be given in illustration; for with a large amount of injury, consisting of compound fracture of the bone, with protrusion, and a large lacerated wound of muscles and integuments, exposing to the eye all the deep textures of the limb, the boy's recovery was uninterrupted by a single untoward sign.

The same principle of treatment was applicable to the second case, that of William S—, in whom the fracture was remarkably comminuted, and, at the first view, very unpromising. After a vigorous but ineffectual attempt to replace the fragments in some approach to order and form, I was compelled to desist, and to throw on Nature the responsibility of the cure. The extended position of the limb appeared that most favorable to the relation of the broken fragments by carrying them from the surface towards the centre. Four large granulating wounds formed over the deltoid in the course of his treatment, but the fragments have united, the parts became consolidated and healthy, and the functions of the joint are unimpaired. I propose to remove the projecting points of bone with the parrot-bill forceps.

In the last two cases I believe the separation to have taken place at the epiphysis; and yet from the pointed form of the shaft in the case of John S—, I presume the division along this natural line was not exact, but in addition to the more ordinary separation, the shaft itself was split asunder.

There is no difficulty in the management of those cases of fractured neck of the humerus which consist in a mere separation of the epiphysis. With the arm attached to the side of the body, and some counter-pressure obtained by means of a pad in the axilla, they do very well; but in the last-mentioned case, something more was required, in consequence of the pointed projection of the bone upwards and inwards. A permanent extension of the arm was, therefore, obtained by means of a long splint applied on the principle of that employed for fractured



thigh, from the upper projecting extremity of which a band was passed round the axilla, and the extended arm rolled to the splint below. The arm, therefore, lies in contact with, and parallel to, the body; and this position is, doubtless, the most eligible in all these forms of injury when not complicated in their nature. It is the most easy and natural position of the limb, and that which involves the smallest amount of evil from muscular action.

I cannot conclude my comments on these cases without urging on you emphatically the utmost caution in your deliberations relative to the resort to amputation of limbs in cases of compound fracture. There is in modern surgery no feature so distinctive, and no improvement so great, as that which applies to compound fractures the sound principle of conservation, and I entreat you, gentlemen, to adopt it as the guiding principle of your practice through life. I may furnish you with a useful hint in the management of a somewhat rare accident, by detailing the particulars of a case of dislocation of the clavicle that came recently under my notice:—

*Case of Dislocation of the Clavicle at the Sterno-Clavicular Articulation; cured.*

A. B—, aged twenty-six, was admitted under my charge into Harley ward in January last, with a dislocation of the sternal end of the clavicle forwards on to the sternum. The accident occurred from a fall while he was engaged in the practice of his calling as a professional pugilist. It appeared from the man's statement that he slipped down, but was not thrown or knocked down by a blow. The value of his testimony might possibly be differently gauged by different persons. I rely on its truth, because I do not understand in what mode a blow received on the front of the body could dislocate the clavicle; the more ordinary and more probable cause being that of a fall on the shoulder when drawn backwards; and, as this explanation tallies with the man's own statement, I should believe him were I certain he had never spoken truth before in his life. The symptoms had no peculiar feature. The arm was drawn to the side; the prominence of the head of the clavicle was manifest on the edge of the sternum; the head was inclined slightly towards the affected side, and the man was indisposed to bring into action any one of the five muscles attached to the bone. The clavicle was reduced, not, however, without some difficulty, arising from the rigid condition of the man's muscular frame. In addition to the extension of the bone, made first horizontally, and subsequently by drawing the shoulder backwards against the counter-extension of the knee placed upon the spine, compression of the head of the bone was made backwards. A firm, thick pad of lint, of about an inch and a half in thickness, was placed on the sternal end of the bone; a second large pad was fitted into the axilla,

and the arm was fixed to the trunk with more than usual care and deliberation. As I had never seen a case of complete recovery from this form of dislocation, I was very desirous, both on the ground of my patient's *professional* pursuits, (which, though not very commonly associated with an honest career, are not, so far as I know, necessarily incompatible with it,) and on that of my own repute, to make my best effort to restore the joint to a condition of perfect health. The apparatus was applied with great care. For a few days the appearance of the bone was satisfactory; but as the bandages became loose, the bone rose above the level of the opposite clavicle; and thus it continued day after day, in spite of every attempt to retain it in position. It would be untrue to say the bone escaped from its fossa, but it was quite obvious that it did not lie fairly within it. Some additional force of pressure was required to retain it in position, and this was obtained through the medium of a strong hernia truss, the pad of which was applied on some folds of lint placed on the bone, the opposite pressure being made on the back. The truss effected all that was required, and from the hour of its application never permitted the slightest elevation of the dislocated bone. The man left the hospital at the end of seven weeks, with the joint to all appearance restored to its normal condition of health, and possessing perfect movements of the arm in all directions.

### Original Papers.

#### ON LARYNGOTOMY IN HYDROPHOBIA.

By J. B. SCRIVEN, Esq.

FIRST ASSISTANT SURGEON PRESIDENCY GENERAL HOSPITAL, CALCUTTA.

MANY years have elapsed since Dr. Marshall Hall proposed to the medical profession the performance of tracheotomy for the relief of the urgent symptoms dependent on closure of the glottis in diseases in which that affection forms a prominent character. His suggestions were directed more especially to the treatment of epilepsy and children's convulsions, probably because these formed the widest field for investigation and benefit to mankind; but not less confident was his hope that in some rarer yet more fatal affection the advantage to be derived would prove equally great. In all he looked forward to one thing as certain—viz., the removal of the symptoms caused by the laryngismus, which, in the immense majority of such cases, as in hydrophobia and poisoning by strychnine, is the cause of death, while he left for future experiment to decide how far the diseases would wear themselves out when deprived of these more immediate dangers.

The following case will, I think, be found interesting to all who have followed the great in-

vestigator of the nervous system in his inquiries:—

J. M——, seaman, aged nineteen, admitted into the General Hospital, Calcutta, July 28rd, 1858. On admission, had been one month in India, and was suffering from slight choleraic diarrhoea, which yielded to simple treatment, sulphuric acid, &c.

On August the 8th, was recovering—in fact, feeling well, and expecting to go out on the morrow; but about eight p. m. was seized with a sudden feeling of “weakness, wind at the stomach, and difficulty of breathing,” while on the stairs and was obliged to hold on by the balusters. The apothecary was sent for, and gave him a dose of peppermint, which was said to have relieved him temporarily. At a quarter to nine, however, I got a note to the effect that a patient in the ward was complaining “of choking.” I went over at once, and found the man sitting on the bed, laboring for breath, yet taking deep sighs, and filling his lungs completely; in great distress, with small rapid pulse, perspiring profusely, crying out that he was dying for want of breath, and requesting me to do something for him immediately. Presently a decided spasm of the glottis came on, with crowing inspiration, like laryngismus stridulus in the child. I gave him a cup of tea which he drank with apparent avidity, though at first he said it would choke him. A mustard plaster also was applied to the chest. After taking the tea he seemed somewhat relieved, having lost the crowing inspiration, but still laboring for breath as at first. In a very few seconds, however, the spasm and the crowing returned, and were again apparently relieved by a draught of water. This was repeated three or four times, when finding the relief only momentary, I sent for a mustard emetic, (a teaspoonful of mustard and four ounces of water.) This took a few minutes to prepare, during which I did nothing except to try to pacify the patient, and feel the larynx, in order that I might be ready to perform laryngotomy if necessary. When the mustard emetic came he drank some of it, and then by a movement apparently half convulsive, threw the cup containing the remainder of the liquid on the ground, and fell back upon his bed, unable to breathe from spasm of the glottis; there was now no crowing, for the glottis was completely closed. I had my pen-knife ready, and plunged its small blade into the larynx through the crico-thyroid membrane. The man was struggling so much at the time, that I only succeeded in making a small opening corresponding with the width of the blade, through which, however, the air whistled, and the spasm of the glottis, at least the distress consequent on it, was at once removed. Now he began to talk very fast and loud, and to express excessive fear of death, calling upon God to have mercy upon him, at the same time struggling, so that it required about six men to hold him. By seizing opportunities, I gradually managed to enlarge the opening into the larynx by

cutting through the cricoid cartilage, and to insert a quill, through which he breathed freely. He still continued talking in the same rapid way and soon became decidedly incoherent, calling upon the devil to come and take him away, and enquiring what he had done “on this 19th day of June” to deserve such punishment. It was impossible to quiet him or arrest his attention; but any sudden movement or impression made him start and talk the louder, as when I placed my hand on the temples to feel the artery. I sent for a bag of water (a bheesty's mussick,) and poured it on his head; but it had little or no effect, except to increase distress and excitement when the water went into his mouth. I tried to give him some brandy and water and some small lumps of ice; but they did not appear to do good, and the greater part of both he managed to spit out.

After this, about eleven p. m., I removed him to a quiet place, and the attendants ceased to hold him. He now struggled much less, but still continued to talk in the same strain, though less loudly, occasionally spitting out with apparent difficulty some viscid saliva. At this time his pulse was found small and wiry—160; skin hot, but moist; great sensibility of surface; he started even when touched. The abdomen seemed to be the most sensitive part. The pupils were dilated, and insensible to light. Respirations were principally thoracic. He had no movements which could be distinctly called involuntary; he swallowed a little brandy-and-water that was dropped into his mouth. He continued in this state for half an hour, after which, without evident cause, he became greatly excited, bawled so as to be heard all over the compound, and required to be held in bed by several men, at whom he spat frequently. Suddenly, it appears he became sensible (about midnight.) When spoken to by the wardmaster, he stood up to have his bed put to rights, and then lay down, took a little brandy-and-water, and went to sleep. He was awake at 4 o'clock on the morning of the 9th, when I went over to see him; quite cool and rational, but complaining of feeling very weak. I put a silver bent tube into the larynx, the quill having come out. He went to sleep again, and was comfortably sleeping when seen at six a. m. At half past eight he was awake; skin cool and moist; pulse 100, soft; respirations 28. Complained of weakness and difficulty of coughing from the opening in the windpipe; was perfectly collected, described the sensations which were premonitory of the attack, as given at the commencement of this history. He said he remembered the cut being made into his throat, but lost himself entirely very soon after; remembered the pain in his throat at the time of the operation, but did not know where he was, and was never in such a fright in his life.

The patient has only been twice on shore in India this time (he was out here last year,) with the exception of coming to hospital. He is perfectly sure that no animal bit or licked him on

those occasions, and there were no animals on board his ship. Was bitten by a dog on the inside of the right thigh nine years ago, and the dog was afterwards killed for biting people, but was not mad; was never bitten by any other animal, and never had a dog of his own but one, which he gave away when he went to sea four years ago. The cicatrices of wounds formed by two teeth are still distinctly visible. Ordered, sago diet; beef tea, two pints; port wine, eight ounces.

Aug. 10th.—Seems pretty well; pulse 100, feeble. To have meat diet. Got the tube out yesterday evening, and did not breathe through the wound in the night as the skin overlapped it. It was introduced again, and tied by strings placed round the neck. Particular inquiries were made to-day about other possible causes of his symptoms. He never had epilepsy or paralysis. The glands of the neck are not enlarged, but there is one small superficial abscess just below the jaw, which, he says, he has had since he first got the cholera. Never had any laryngeal affection before, nor difficulty of breathing. Bowels regular, and stools solid and healthy, as they were also before the attack. Præcordial region very slightly prominent, but he never had palpitation; the heart-sounds are healthy, and the organ in natural position and apparently of natural dimensions. No murmurs along the arteries in the chest, nor other signs of aneurism. Liver of natural dimensions; spleen likewise. A slight murmur over the abdominal aorta (not produced by pressure of the stethoscope,) but no pain, palpitation, or tumor. No abdominal disease detected. Has had no illness since the scarlatina, when he was six years old. Says he had a little irritability of the bladder on the voyage home last year, which he attributed to drinking bad water; this got well, and he had no return of it. The urine now is straw colored, clear, 1016; no albumen; no deposit seen under the microscope; very slightly acid.

His sensations on taking the mustard, on the evening of the 8th, he thus describes: "It caused burning in my stomach, which seemed to come up into my throat, and stopped my breath." He does not remember throwing away the cup containing the remainder of the liquid. Says he had difficulty in drinking the water during the attack before the laryngotomy, but drank it because I told him.

11th. At noon I found him in a very excited state. Ever since the operation he has had slight emphysema about the chest, which all along he has been inclined to exaggerate, but to-day he magnified it into something terrible, and filled up the wound in the throat and his ears with cotton from his bedding, which he had torn to pieces; this was done with the idea of preventing the entrance of more air.—About three p. m. he became decidedly delirious, and was in a great fright about himself: said that he thought I had cured him, but that now he was gone; the blood had come up into his head, his

belly and testicles had burst, and his limbs were all swollen. He was asked to take some water, but he said it would choke him; yet he took it.—At six p. m. he was violently delirious and very abusive, talking very loud and fast, and spitting at every body; said I had killed him by opening his windpipe, and that I had done it because he was a Catholic and I a Protestant. He was a little feverish and his tongue dry. Pupils dilated and immovable. The tube was removed from the larynx, as he would not keep it in during this delirium, and the wound now remained freely open of itself. I administered chloroform by inhalation: he took three drachms and a half, and fell into a tranquil sleep, in which he continued for three hours. During the inhalation the pulse sank from 120 to 100. On awaking, he was still delirious, but quiet; covered himself with the bed clothes, and was apparently sleepy; yet he did not sleep, but continued in this drowsy state.

12th.—At one a. m., he expressed a wish to see me. I found him more collected, though excited. He asked forgiveness for having spit at the gentlemen, and inquired if it were really true that he had done so, as he thought he remembered doing it during his dream. Thought he would be much better if he got some of the same drug that put him to sleep before. I therefore gave him chloroform again. He took two drachms, and again fell into a tranquil sleep, which continued till half past five a. m. When I went to him, about six a. m., he was drinking water and eating bread-and-butter, and said he was very hungry; still talked about being swollen; slightly incoherent; manner a little excited; skin cool and moist; tongue moist and clean.

13th.—He was somewhat incoherent all day yesterday; ate more food, but did not take his meat; became more excited towards evening, and began to spit a little as on the previous evening; was quieted by the inhalation of chloroform; took a drachm and a half, and slept all night; is known to have awoke only once, at nine p. m. Appears a little busy and excited, but does not talk incoherently at present; says he is much better, that the crackling (i. e., the emphysema) in his chest is almost gone, and that he has now no swelling of the limbs. Tongue moist, slightly coated; pulse soft, 84; skin perfectly cool and moist; bowels not open since the night of the 10th. Ordered six drachms of castor oil immediately; port wine, sixteen ounces.

14th.—Continued much in the same state all day yesterday. Delirium increased in the evening; there seems to be always some great fear of death connected with it. Last night, said he was much worse; showed me his hand, remarking that the pulse did not beat. Chloroform administered again. Took two drachms, but the effect did not last. Went to sleep while inhaling this, but awoke in a few minutes; the third sleep was rather a deep one, accompanied by

puffing of the lips during expiration. He was ordered the following: Battley's sedative solution, forty minims; peppermint water, one ounce: to be taken at bed-time. After taking the draught, he slept an hour and a quarter. With this exception, has been awake all night, and about one A. M. became very noisy; threw the contents of the night-stool over the sergeant and coolies. Is still delirious this morning; no fever; skin cool and moist; pulse 100, soft; bowels freely opened yesterday; did not eat his meat, but took the greater part of his beef-tea and port wine.—Two P. M.: Chloroform, half a drachm; camphor mixture, one ounce: to be taken every two hours. In the evening, Battley's sedative solution, one drachm; water, one ounce; to be taken at bed-time.

15th.—Took his medicine up to midnight; would not take it afterwards; very delirious and troublesome all night; since midday yesterday has been perspiring freely; does not eat, but takes his beef-tea and port wine; is quiet and sensible this morning; pulse soft, 72; complains of headache. Repeat chloroform draught; anodyne draught at bed-time.

16th.—Took his medicine yesterday regularly up to three P. M.; got a little sleep during the day, the pulse varying from 72 to 76; ate nearly all his food, and was not at all excited, though not perfectly coherent. In the evening he was somewhat worse; thought he was dying, and requested me to send his clothes and money to his father. Took his draught at bed-time, and slept almost the whole night. Passes urine freely, but bowels not open; pulse more feeble than yesterday, only 72; skin moist and cool; tongue rather dry; is delirious, but not noisy; was crossing himself, and muttering some kind of prayer, when I saw him this morning; has had no chloroform since three P. M., yesterday. Repeat castor oil, half an ounce, immediately.

17th.—Got his fingers upon the wound in the throat yesterday, and made it bleed to a most surprising extent, most of the blood running into the windpipe, and being coughed up immediately. This weakened him considerably, and increased the frequency of his pulse, but he nevertheless ate his dinner, and slept the whole night without any opiate. He is still delirious this morning; says there is a bad smell from his body, which is injurious to other people; pulse soft, feeble, 88.

19th.—Sleeps well at night, but is delirious during the day; is melancholic; always fancies he is dying, but has no particular complaint to make of uneasiness; wound in the throat open, suppurating; appetite good; tongue clean, moist; pulse 92; bowels open.

25th.—The same wound in the throat closed internally since yesterday. It is granulating. He does not breathe through it now. Pulse soft, 68 (lying); skin cool and moist; looks sad; still fancies he is injuring other people.

Sept. 8th.—The remaining notes are but a repetition of this last. He has the same delu-

sions, and refuses various articles of diet in succession, in hopes of diminishing this smell from his body, which he considers so injurious to all around him. He sometimes tells me he knows he must die for the injury he has thus produced, and the number of deaths he has caused. He has become thin during his illness, but otherwise appears now to be in good bodily health.

To give a name to this patient's disease is more difficult than might at first sight appear. The throwing away of the liquid and the convulsive closing of the glottis point to hydrophobia; and the fact of the man drinking, though with difficulty, before is by no means hostile to the idea, as the attack had but just commenced, he had had no complete closure of the glottis, and had not learnt to connect the spasm with the swallowing of fluids. It is probable that, had the larynx not been opened when it was, he would strenuously have refused the next draught of water. Hydrophobia cases are rarely seen so early by medical men, so that we lack the means of comparison; yet the absence of the peculiar horror of water in the early stages is by no means without a parallel. Again, we lack the means of comparing the course of the disease after the operation; for, as far as I am aware, no cases of hydrophobia so treated have been recorded; yet everything agrees with what Marshall Hall anticipated, viz:—

1st. The cessation of all symptoms consequent on laryngismus, the absence of general convulsions and horror of water.

2nd. The retention for a time of all the other symptoms of hydrophobia: the intense excitement, the wild delirium, the morbid sensibility of the surface, the spitting, the fear of immediate death.

3rd. The gradual amelioration of the disease. The total absence of any other discoverable cause for the strange affection, the rarity of such symptoms from any other cause (though their possibility is not denied), are all in favor of the view; while the obscure history of the inoculation is only what is common in cases of the most unmistakable kind—perhaps, indeed, unmistakable from the non-performance of tracheotomy, and the consequent persistence and hitherto invariably fatal result of hydrophobia. Be the name of the disorder what it may, it was a kindred one to hydrophobia. It commenced with spasm of the glottis, which was followed by all the characteristic symptoms. Laryngotomy did all that was ever expected of it. It relieved the man from immediate danger; it gave time for the blood poison to be gradually spent, and allowed the disease to terminate in melancholia instead of in death. Time alone can tell whether or not the patient will eventually recover.

It appears to me that this case is scarcely less valuable as an illustration of the correctness of the views of Dr. Marshall Hall than if the history of its production by the bite of a rabid animal had been more distinct. This is the only link in the chain of evidence that we

want to prove it hydrophobia. The effect of chloroform (given by inhalation, and, when that failed, by the stomach) in quieting delirium, lowering the frequency of the pulse, and inducing sleep, is well worthy of remark.

Calcutta, 1859.

### CASTRATION AND MUTILATION.

CASES SHOWING THE IMMUNITY OF INSANE PERSONS FROM INFLAMMATION AFTER INJURIES.

By Wm. C. Hills, Esq., M.R.C.S., Maidstone.

Case 1.—J. B.—, a homicidal and suicidal maniac, had for a long period occasioned much anxiety in consequence of the severity of his symptoms. On the 29th of April, 1856, during the temporary absence of his attendant, he castrated himself in the watercloset; using a little piece of pointed lath to make an opening in the scrotum, which he enlarged by tearing with his fingers so as to lay open each tunica vaginalis. The wound bore the shape of a Y inverted. The exact way in which the spermatic cords had been severed could not be ascertained; it seemed probable, however, that they had been jerked asunder, the naked testis being firmly grasped in the hand. The removal of both testes was complete: one he had thrown down the pan, the other in a corner. The man was faint from the shock, but no hæmorrhage occurred, and no vesicles required tying. Sutures were used to hold together the torn scrotum which became reunited in the course of a moderate suppuration, without sloughing. The patient complained of great tenderness in each inguinal canal, where there was swelling from effusion in the course of the spermatic vessels. This swelling gradually subsided, and no ill consequences followed the violent operation he had performed. He confessed having made improper use of himself, when asked the reason for his act. His mental state appeared to be one of real improvement, and at the end of a period of satisfactory probation he was discharged, as recovered, on the 25th March 1858; since which time he has followed his employment as a shoemaker, and up to this period remains quite well. It is a question whether the self inflicted operation may have aided his mental restoration.

Case 2.—R. S.—, aged twenty-two, on the 10th of March, 1859, during a very severe maniacal paroxysm, broke a pane of glass, with a piece of which he inflicted a wound about a quarter of an inch in length, situated an inch and a half to the right of an below the umbilicus. At the time of discovery, he showed a strong desire to injure himself, soliciting those around him "to cut out his entrails." The incision was superficial, and apparently of no importance, and on the following morning there was no alteration in its appearance. The patient continued in the same excited state, and on undressing him in the after-part of the second day, a substance about the size of an ordinary walnut was seen

protruding from the wound, and proved to be a portion of the omentum. It was evident, from the blood on his finger-nails, that he had roughly divided the peritoneum; and as, during the fits of excitement, he violently contorted himself (resting only on his occiput and heels,) the great muscular exertion used sufficiently explained the occurrence of hernia through so small an opening. Having oiled the congested protrusion, I gradually returned it with the aid of a director. I used an uninterrupted suture, and over that a slight compress and a bandage. In three days the wound suppurated, and continued to discharge healthy pus until the 6th of April, when the pus became thin; and on the 11th of the same month the wound was quite healed.

The extreme restlessness of the patient through the ensuing fortnight, during which period he thwarted as far as he could every measure taken for his safe treatment, made it surprising that no inflammatory symptoms followed. Care was of course taken that the patient himself should meddle no further. Nevertheless, the case affords another proof of the frequency with which the insane escape the ordinary consequence of injuries.

County Lunatic Asylum near Maidstone,  
May, 1860.

### DELIRIUM TREMENS CAUSED BY EXPOSURE TO COLD AND WET.

By WILLIAM TILBURY FOX, M. D. LOND.

MR. A.—, aged forty-five, a very temperate, steady, and active man, low in stature, and possessing a short, thick neck, was the subject of the following curious attack. He is the only surviving and youngest of seven sons, five of whom have died suddenly from cerebral disease ("in fits"), one being paralyzed, and a second affected in somewhat the same manner as in this case, and who is said to have delirium tremens, and to have died three hours after the attack commenced.

This man got up and went out about his business at six A. M., on the 30th of March (on which day a snow-storm occurred), in his usual health. He took scarcely any breakfast (this being not uncommon with him), came home and wrote for an hour and a half, seated before a good fire, had half a pint of beer, and went out with his horse and cart at eleven A. M., and as it was "his busy day," he had a good many places to go, and a good deal of worry. At mid-day he returned (having been out about two hours), perfectly wet through from head to foot, cold, and shivering very severely. He had not taken anything since he left home at eleven A. M. After putting his horse and cart away, he went in-doors, where he had a few words of dispute with some one upon business matters. Soon after, an attack of severe shivering came on; he said he felt very numb all over, and became quasi-deli-

rious, insisting upon going home. He did not appear to know his wife, and fancied he was in a strange place. He had some hot brandy-and-water. At times he was perfectly rational, and then complained of tingling in the palm of the right hand. He could walk perfectly well, and had no headache, but his feet were cold. He laid down upon the sofa, and had hot bottles applied to his feet. At half-past three p. m. I found him lying on the sofa, with his eyes closed, and apparently dozing. He did not notice my entrance, but when spoken to, that his attention might be aroused, he was very much annoyed to think I should intrude upon him. He again insisted upon going home, and wanted his wife, desiring "the women to go away from him, and those people to leave off picking his hands," &c. When asked if he would go to his bed, he said "he was not to be gammoned—he was not going to any other but his wife's bed," &c. When his attention was particularly called to any point, he for the moment was quite sensible, but immediately relapsed into an illusive strain. There was present the peculiar mental state of delirium tremens—i. e., his attention was easily aroused, but could not be fixed; his judgment was quick, immediate, but incorrect. His illusions were not confined to one subject. Face slightly flushed; extreme shivering at times; pulse small, slow, deliberate, 60 only; surface cool, especially hands and feet; tongue tremulous, flabby and covered with a creamy fur; no paralysis at all; pupils moderately dilated, sluggish; conjunctivæ slightly suffused. In lucid moments, when aroused, he said he had no headache, but complained of a tingling in the palm of the right hand. When his attention had been particularly called to the fact that his wife was near him, he said, "All right," but it is doubtful if he recognized her. He was not at all violent. General sensibility seemed normal; reflex actions perfect. Delirium tremens was diagnosed. The treatment consisted in the exhibition of an effectual emetic, with the view of exciting the action of the skin, and the application of a very large mustard poultice to the neck. He was well wrapped up; and after the emetic had fully acted, which it did between six and seven p. m., he had a comfortable sleep, and awoke quite himself again, with the exception of feeling a little weak.

**Remarks.**—The subject of the above attack is a very temperate man; there is no habitual or temporary taking of stimuli of any kind to account for it. Since his recovery he has stated that he remembers everything which occurred until he came in-doors after putting his horse and cart up, when he lost himself. His family is predisposed to suffer from head affections (apoplexy). When seen at half-past three p. m., his breath smelt of spirit (the brandy-and-water his wife had given him). No doubt the exposure to cold and wet was sufficient to contract the vessels of the surface, and thus produce congestion of the brain. Whatever was its *modus oper-*

*andi* (by shock or by inducing cerebral congestion), his getting wet through and the cold formed the real cause of the attack. The case affords some points of practical value—

1st. As showing that you may have in delirium tremens a slow, deliberate pulse (60), instead of the soft, feeble, frequent one, which is usually taught to be constantly present.

2ndly. We know delirium tremens occurs in northern, cold, and damp climates, most frequently, it is said, because there is more drink taken to keep up the temperature of the body. This case tends to show that the *vera causa* is to be looked for in the conditions of temperature and the like, which, indeed, is the more philosophical argument.

3rdly. Suppose such a case to have been taken to an hospital, and the ordinary treatment adopted, would it have been beneficial? Delirium tremens possibly would have been diagnosed, perhaps the stomach-pump used (for his breath smelt of spirit), cold water applied to the head, and a full dose of opium given, which would only have diminished vital action the more, and increased the cerebral congestion. The tingling of the fingers, his being apparently drowsy, and the occasional twitchings (shivering), not unlike convulsive spasms, were very seductive, combined with the short neck and family history.

4thly. This case is peculiar in being so very temporary, the whole attack lasting only six or seven hours.

5thly. There was an absence of all the usual causes of delirium tremens (there is not the least doubt of this at all).

6thly. The result of the case indicates the value of exciting the action of the skin in such a state, which may be best accomplished by emetics and counter-irritants.

The man remains quite well. So far as my experience goes, the case is unique.

Gloucester-gardens, 1859.

## ON A CASE OF DROPSY OF THE ANTRUM.

By JOHN GREEN, ESQ., M.R.C.S., SEDGLEY.

Mrs. W—, aged thirty-two, applied, on the 20th of March, to obtain my opinion about a tumor in her face, that she had been told was cancer. There was, in reality, a large hard swelling in the superior maxillary bone of the right side, free from soreness, but attended with a constant pain of an uneasy, gnawing character, not severe, though depriving the patient of her rest. Close to the orbit the bone was well defined and normal. On careful pressure, at the lowest portion of the tumor, the attenuated parietes of the antrum were found to give way with a crackling sound. Inside the mouth the bone was largely distended, completely filling up the cavity between the alveolæ and the muscular covering; the mucous membrane was highly vascular. Several of the teeth were

slightly decayed, but not sufficient to warrant the suspicion that dental irritation was the original cause of the mischief. As the patient gladly consented to any means that would be likely to relieve her, I proceeded to extract the first molar tooth, and introduced a trocar, through its socket, into the cavity of the antrum. From six drachms to an ounce of a thin, yellowish fluid, of an intensely bitter, nauseous taste, was then drawn off. Under the microscope, and even with the naked eye, it could be seen to be loaded with cholesterine, as related in other cases of this nature. The relief from pain was instantaneous after the operation; the swelling diminished, and the parts became soft. In the after-treatment, the bowels were acted upon; the cavity was several times injected with warm water, and the wound prevented from closing. The discharge gradually decreased, and in the course of a week had entirely ceased. The parts had recovered their natural size, and there was no pain. The wound was now allowed to heal.

She could give no account of the original cause of the affection, not remembering ever having had a blow on the part. She told me that it "came itself" between two and three years ago, and had been slowly increasing up to the time that she came to me.

Sodgley, May, 1859.

#### ON A CASE OF POISONING IN A CHILD BY A LOZENGE CONTAINING OPIUM; RECOVERY.

By J. N. CREGEEN, Esq., M.R.S.C.E., &c., Deptford.

As cases of poisoning by opium and its several preparations are of all others the most frequent, especially in children, the following case, I think, will be found to possess some points of interest:—

A few weeks ago, Mrs. W—brought her son, aged two years, to me, stating that she had carelessly allowed him to eat a lozenge given him by a man who had occasion to enter her shop to make some purchases; and that about a quarter of an hour after eating the supposed harmless lozenge he was seized with drowsiness and stupor, which greatly alarmed the parents. Upon examination, I found the child suffering with the following symptoms:—He was in a profound stupor, and insensible, and could not be aroused by any loud noise; the pupils were so exceedingly contracted as hardly to be perceptible, and insensible to light; pulse small, feeble, and intermittent; the skin warm and slightly moist; the expression of countenance pallid and ghastly; and he was evidently suffering from narcotic poisoning.

I immediately gave an emetic of sulphate of zinc, and applied sinapisms to the feet and cold effusion over the head and chest. The emetic was soon followed by a free evacuation of the contents of the stomach. The vomiting was

freely encouraged for some time, and the child was then allowed to be taken home, with the caution that he should be kept awake until I saw him again, which required the most assiduous perseverance on the part of the attendants. I again visited the child, and, after the lapse of a few hours, allowed him to go to sleep. On calling next day, I found him quite convalescent.

Broomfield House, May, 1859.

#### REPORT OF A CASE OF EXTENSIVE EMPHYSEMA OCCURRING DURING LABOR.

By E. BISHOP, M. D., Devonport.

On the 1st of December, 1858, I was called at eight a. m. to Mrs. C—, primipera, who was represented as having been in labor some hours. On arriving soon after the summons, I found her on the bed straining violently, which at once struck me as useless and unnecessary, and on examination my hypothesis was found correct. The os uteri was dilated to about the size of a two-shilling piece, and exceedingly rigid; presentation natural. I assured her that any effort on her part was useless, and requested her to bear her pains as easy as possible, which she gladly consented to do. The membranes had given way two or three hours before my visit, and, judging from the statement of the nurse, the liquor amnii completely evacuated. It was not necessary to remain, so I returned home. At five p. m. I saw her again; labor had made very little progress; she had followed my advice.

At ten, the same evening, her husband called and requested my immediate attendance, as those about her considered she required some assistance. On arriving at the house, I found her excited, and throwing her arms about. On examination, the os uteri was soft and yielding, but the head high up. I determined to remain the night. By three in the morning, the head was pressing against the perinæum, and the pains and effort on the part of the patient most violent. I cautioned her all along to restrain her efforts as much as possible, as they only tended to exhaust her. At this period, and during a most powerful effort, she suddenly exclaimed that something had given way in her chest. On interrogating her, she directed me to about a couple of inches below the right clavicle. At each succeeding pain she complained of this. The neck and face soon became swollen to that extent that both eyes were completely closed, and she complained of great inconvenience and lancinating pain about the eyes from extreme tension. The head of the child was steadily advancing through the outlet, and it was evident that labor could not be prolonged; otherwise it appeared to me that it would either be necessary to bleed or give tartar emetic, as my patient



was a stout, healthy young person, of a sanguineous and plethoric condition of system, and the symptoms not satisfactory. By four the head was passed, and on inserting my finger along the side of the neck of the child, I found the umbilical cord was twice round the neck and looped under one arm; this retarded the progress for some few minutes. She was delivered of a fine, healthy child at a quarter-past four o'clock. The uterus did not seem disposed to throw off the placenta for nearly an hour; gentle traction was of no avail; but by promoting contraction now and then with the hand, it was expelled. Considerable hæmorrhage followed, sufficient to produce syncope, which was arrested by a full dose of ergot and wet cloths to the vulva.

I now had an opportunity of turning my attention to the extraordinary swelling of the face and neck. Crepitation could be distinctly felt and heard when standing above the patient, and even some distance from the bed. The pulse did not indicate anything particular. She did not complain of cough before labor, but it came on directly after, and caused her much distress. The stethoscope revealed nothing abnormal or satisfactory. This person had enjoyed throughout her life the best of health, had never to her knowledge had any chest affection, such as pleurisy or pneumonia, so that from her own statement there was no reasonable ground for suspecting adhesion. I prescribed for her a mixture containing tartar emetic in small doses, nitre, and hyoscyamus, which in two or three days relieved the painful cough. Three weeks from the date of her confinement, crepitation could be felt in the right cheek, neck, and down to the right mamma; but her general health was tolerably good, and I have every reason to believe time will eradicate all traces of emphysema. It is probable the hæmorrhage which followed the delivery of the placenta relieved many symptoms, which otherwise might have proved distressing.

#### REPORT OF A CASE OF ANEURISM OF THE ABDOMINAL AORTA.

By G. P. GIRDWOOD, Esq., M.R.C.S.,  
ASSISTANT-SURGEON, GRENADIER GUARDS.

W. S.—, a sergeant in the 1st Battalion Grenadier Guards, aged thirty-six, came under my care on the 10th of September last. He had been in the regiment eighteen years. The patient was, when a young man, rather dissipated, and addicted to the pleasures of the fair sex, but has latterly been a sober steady man; he is now married, and has two children; he is a spare man—never was stout; has not lost flesh lately; complains of occasional pain in the back, opposite the second lumbar vertebra; also pain in the right side, extending across to the left, referable more particularly to the region of the

liver. After eating, the pain in the left side is considerably increased. He suffers from flatulence, and is sometimes sick after taking food; complains of a disagreeable taste in his mouth in the morning; tongue slightly furred; bowels confined—sometimes for several days at a time; pulse 70, quiet and normal in its pulsation. The pain in the right side is increased by pressure; the conjunctivæ are slightly suffused with a yellowish tint, the skin generally presenting a dull aspect; the urine sometimes loaded with lithates, at other times perfectly clear, and, when clear, passed in much larger quantity than when thick (about six pints in the twenty-four hours). Blue-pill and aloes every night, with carbonate of soda and gentian during the day, relieved him of his more urgent symptoms in the course of a fortnight.

Sept. 26th.—He retained occasional pain in the region of the liver and back, as well as the yellowish appearance of the conjunctivæ and skin; for which symptoms the remedies mentioned were occasionally had recourse to during the succeeding six weeks.

Nov. 12th.—His symptoms have become gradually more urgent, the pain in the back more constant, but alternating with pain in the testicles, and that pain noticed more particularly in the right testis. Both testes are flaccid and atrophied; the lithic acid in the urine is more constant; he is visibly losing flesh; no disease of heart or lungs can be detected. It may be remarked, that slight touching of the scrotum or testis causes great pain, whilst firm pressure does not. Pressure in the region of the kidney causes pain there. No particular spot along the spine can be found tender. Percussion along the spinal column produces no increase of pain. There is no albuminuria. The same treatment adopted before now returned to, with the addition of a belladonna plaster to the back, have given no material relief, although persevered in till Nov. 30th, but have lessened the irritability of the stomach, and increased his appetite. At this time he was put upon quinine and iron.

The man has become weaker, and the tenderness of the scrotum not only there increases, but extends to the thighs and lower part of the abdomen. The glands in both groins are somewhat enlarged, and are rather painful to the touch. Pain extends along the inner side of both thighs; it is, however, a cuticular pain, not increased by firm pressure, but is so by slight touching. The urine has become clear and free from deposit, is greater in quantity, and free from albumen.

The quinine and iron was continued till Dec. 19th, with but little change except increase of appetite; but still weaker condition of body, and increase of pain, with restlessness at night, for which blue-pill and Dover's powder were given at bed-time; and this treatment was continued till Dec. 29th, when, the pain and restlessness at night increasing, a larger dose of



Dover's powder was given at bed-time, and the quinine-and-iron continued. The symptoms become more and more aggravated, and the yellowness of the conjunctivæ more apparent. The lithic acid has again appeared in the urine, but is not constant—one day the deposit being very large, and the next day absent altogether.

His case is very obscure, and I am at a loss to know what to make of it. I can find no tenderness on pressure of the abdomen, except in the region of the liver; no tumor in the abdomen. He still complains of cuticular pain about the scrotum, lower part of abdomen, and anterior region of the thighs; he describes it as gradually increasing. The pain the back is now but little complained of. There is no displacement of any part of the spinal column, nor does he stoop; he walks perfectly upright, and his shoulders are equal in height. The weakness is so great, that he can only take a few steps without support, and is obliged to keep his bed. The malady has the character of neuralgic affection of the testis, under which view of his case, he was, after consultation, on the 4th of January, put upon quinine in large doses, to which, on the 13th, cod-liver oil was added. His sufferings continued to increase. The only effect of the quinine was an increase of appetite. It is now good; the bowels regularly opened daily; his tongue is clean; he looks more cheerful, and certainly clearer in complexion; but still his pain increases daily.

Jan 15th.—I am still at a loss; and having shown the case to a friend, I have by his recommendation, (there being considerable tenderness over the region of the kidney, which is increased on pressure, and the lithic acid deposit in the urine being more constant,) applied cupping-glasses over the loins, and put him on two grains of calomel and half a grain of opium three times a day.

16th.—He has less pain in the back than yesterday; also less pain in the testicles, and the tenderness in the legs is less; takes his food well, and altogether seems relieved; the lithic acid is still present in quantity. Continue the pill three times a day.

17th.—The pain still becomes less wearing, and he continues to take his food well; bowels are not opened. The pill continued.

18th.—Is much the same as yesterday; he is excessively weak; can scarcely stand without support; bowels still confined; gums slightly affected by the mercury. To take the pill twice a day; and an ounce of castor oil immediately.

19th.—Complains, this morning, of much tenderness over the abdomen; knees drawn up; pulse small and frequent, 96; the tenderness of the abdomen cuticular, deep pressure not causing pain; the pain has returned more acutely down the inside of the thigh and scrotum; if the finger be drawn gently across any of these parts, acute pain is experienced, but not when

firmly pressed; he has no pain at all in the back; is much weaker, but still continues to take his food; the bowels have been opened with the oil. Turpentine stupe to the abdomen; continue the pill twice a day.—Evening visit: the excessive tenderness of the abdomen and thighs is completely gone, but he complains of restlessness and pain, referred chiefly to the iliac region. Ordered ten grains of Dover's powder.

20th.—Slept well last night, and awoke this morning considerably better; and after eating his breakfast, expressed himself much relieved. Immediately afterwards, he turned over in bed, and about nine o'clock died, without any premonitory symptom.

*Post-mortem examination, twenty-six hours afterwards.*—Body much emaciated, and apparently shrivelled and bloodless; a somewhat yellowish suffusion of the skin and conjunctivæ. Abdomen distended, and fluctuations most distinct; the muscles were rigid from rigor mortis, and particularly prominent. Cranium not examined. Thorax: Heart perfectly healthy, but nearly empty of blood. Lungs: Slight adhesions of old standing at the apices; the apices of both lungs slightly puckered, otherwise perfectly healthy throughout, but very bloodless. A tumor, about the size of a large orange, projected upwards through the aortic opening of the diaphragm, which, on examination, proved to be a sudden dilatation of the aorta, with the diaphragm pushed up over and adherent to it. Abdomen: Liver healthy; both kidneys healthy; spleen healthy in structure internally; cavity of the peritoneum distended with blood; the crassamentum had separated by coagulation. There was one line of coagulum leading from the spleen to the lower part of the abdomen, and another from the under surface of the liver, joining the general mass of coagulum existing in the lower part of the abdomen. The whole of the convex surface of the spleen was found adherent to the under surface of the diaphragm; the bands of adhesion were all infiltrated with coagula. The cellular tissue in the neighborhood of the spleen, the kidney, and the suprarenal capsule on the left side conjointly formed a part of the wall of the aneurism which was found to exist. Part of the under surface of the left lobe of the liver, the lobulus Spigelii, the lobulus quadratus, the gall-bladder, and the vessels leading to and from the liver, the head of the pancreas, the duodenum, and the transverse colon, all matted and glued together, formed also part of the wall above and anteriorly on the right side. The diaphragm distended over the dilated walls of the abdominal aorta, and adherent to this a portion of the under surface of the stomach at its cardiac extremity formed the upper boundary on the left side. Latterly and anteriorly the crura of the diaphragm, the cellular tissue over the kidneys, thickened and infiltrated by adhesive inflammation, formed its boundary. The dilated aorta,

the duodenum and pancreas, and cellular tissue of the mesentery formed its wall anteriorly. There were prolongations of the sac downwards, involving the origin of the psoas magnus muscle on each side, and causing adhesive inflammation even of the muscular structure between and posterior to the transverse processes of three upper lumbar vertebræ posteriorly. Posteriorly the sac was completed by the bodies of the last dorsal and three upper lumbar vertebræ. The body of the first lumbar vertebra was eaten away by the pressure, then that of the second lumbar, and then the last dorsal; the intervertebral substance between the bones remaining unabsorbed, although the pressure had absorbed at least the moiety of the body of the bones. The post-mortem examination in this case at once revealed the cause of all the symptoms: the pressure on and inflammation around the origins of the lumbar nerves and plexus giving rise to the pain and excited sensibility at the extremities of those nerves, and the parts supplied by them; the pressure on and thickening around the ductus communis choledochus being the cause of the slight appearance of jaundice; the inflammation of the tissues around the kidneys producing the pain in that region, and also partly accounting for the lithic acid in the urine; the constant pain in the back being owing to the absorption of the vertebræ, and pointing out how much mischief may be going on with inadequate evidence.

Windsor, May, 1869.

#### REMARKS

ON THE

#### PROPOSED BRITISH PHARMACOPŒIA.

By FREDK. W. HEADLAND, M.D., L.R.C.P.

THE unity of the three parts which constitute the kingdom of Great Britain and Ireland has been, until recently, little more than political. The unity of laws, the unity of faith, of scientific institutions, of the learned professions, in these countries, has, with some partial exceptions, never yet been attempted. The word "solidarity," imported from abroad, has no place amongst us—no home in our feelings or in our experience. The all-devouring centralization that is remorselessly carried out in most countries of the continent, is, fortunately for our independence, repugnant to our feelings, and therefore impossible. As regards the medical profession, in which for the present we are most interested, we have to represent us to the rest of the world, no single head, but a sort of many-headed Gorgon. Each kingdom has its College of Physicians, its College of Surgeons, its Society of Apothecaries, and its half-dozen Universities granting medical degrees. Among so many rival institutions, with their various qualifications, their differences in social status, their separate nationalities, and their conflicting claims, it is to be regarded more as an accident than a natural

consequence that any agreement whatever has been arrived at on the subject of medical practice.

On the very important ground of the drugs to be employed, the weapons with which we are to be armed in our daily conflict with disease, it was at least desirable that some kind of agreement should be attained. It has happened, fortunately, that the diversity on this head is not so great as might have been expected. The sect of physicians in each country—those practitioners who occupy themselves chiefly with the treatment of internal diseases, and with whom it had become a point of etiquette that they should not themselves prepare the medicines which they ordered—felt themselves soon necessitated by this circumstance to prepare some formal code of medicines and preparations which might serve as a guide to those who undertook the task of dispensing for them, and as a key to their written prescriptions. They having also become affiliated to central colleges in the capital cities of the three kingdoms, it fell naturally to the governing body of each college to draw up this code. Hence the first Pharmacopœia of the London College of Physicians, which received immediately the stamp of legal authority, and was recognized in course of time by all practitioners as a concise and satisfactory codex of medicines and forms. This example was followed by the Colleges of Edinburgh and Dublin, who, however, thought fit to draw up separate codes of their own, which obtained as a standard of reference in Scotland and Ireland respectively.

The pharmacopœias that sufficed in these old times became quickly out of date as knowledge advanced. Our ancestors fought with bow and arrow: our contemporaries are armed with the Enfield rifle and Armstrong gun. We possess far more potent means of combating disease than were known in the days when cinchona, and iodine, and chloroform, and cod-liver oil was undiscovered and un hoped for. Successive issues of the pharmacopœias became necessary as science advanced, as chemical and botanical discoveries shed new and wondrous light on our path, and the art of medicine became something more than guess-work. In the Pharmacopœia of the London College of Physicians, published in 1851, we have an array of potent drugs, a judicious selection of prescribing formulæ, to which we may appeal with pride as showing the advance that has been made in modern times—the beautiful simplicity to which practice has been brought by theory, and which may be considered as far more worthy to represent the state of science in our day than the codex of France, of Austria, or of any other country. If the talents and energy of the late Mr. Phillips be allowed, as it must be, to have a large share in the production of this gratifying result, it must also be admitted that our London College of Physicians has deserved well of the profession at large; and even if all that it had done

for medical science were summed up in the issue of this simple, unpretending, but yet most sufficient compilation, its labor has not been in vain.

Meanwhile the Colleges of Edinburgh and Dublin have gone on with their Pharmacopœias, in several editions of which they have included to a great extent the same medicaments and the same commonly-used formulæ as those which are recognized in England. But, unfortunately, this agreement by no means amounts to identity. A spirit of provincial rivalry, highly laudable in itself, has led to the continuance of variations and peculiarities, which, to say the least, are exceedingly troublesome. France has but one codex, America but one, but we have three. An Englishman in Edinburgh must be careful what he orders, as an interpretation to which he is quite unused may be put upon the terms already so familiar to him. The London physician in Dublin may poison his patient if he is not on his guard in prescribing. Dilute hydrocyanic acid of the Dublin Pharmacopœia, is about twice as strong as that of the London Pharmacopœia. *Acetum opii* of Edinburgh is three times as strong as the preparation of the same name in the Dublin Pharmacopœia. *Acetum colchici* of Dublin is three times the strength of that of London and Edinburgh. Compound iodine solution of the Edinburgh Pharmacopœia contains sixty times as much iodide of potassium and thirty times more iodine than in the London and Dublin Pharmacopœias. The morphia solutions of the London Pharmacopœia are twice as strong as those of the other colleges. The specific gravities of the mineral acids are variously fixed, and there are ten different strengths of acetic acid!

It is, of course, highly desirable that these and other discrepancies should be reconciled. It has been proposed to do this by an agreement between the three Colleges; but the labor is now transferred by the new Act to the Central Medical Council, in which all corporate bodies are represented. I have thought it not out of place to direct the attention of the profession to a matter which all practitioners of medicine must feel to be of vital importance, and which is already engaging the anxious deliberations of scientific bodies throughout the kingdom. The experience of many amongst us may be brought to bear most advantageously upon some of the points in question; and those which are likely to give cause for debate, and to elicit varieties of opinion should be mooted early, in order that they may be fully discussed.

Having thus touched lightly on the general bearing of the subject, I proceed to more precise observation on the matter in hand. I have said that

1. A National Pharmacopœia is desirable.

2. It must consist of a judicious amalgamation of those at present in existence. The London Pharmacopœia, as confessedly the best, and of most authority, should be taken as the basis

of the new compilation. It may receive improvement from a careful addition of the best points in the other two, especially that of the Dublin College, which has been more recently issued than that of the last Edinburgh Pharmacopœia, (1850.) A pharmacopœia must consist of a *materia medica*, or list of drugs which may be prescribed singly or together, and a formulary, or code of combinations, fitted for administration, as mixtures, tinctures, ointments, &c., and the precise method of preparing these. In all pharmacopœias that have yet appeared, a number of chemical compounds and metallic salts have been included in this latter department. It would be much better for the future to transfer this to the *materia medica*. It will be sufficient to indicate the tests by which their identity may be established, and their purity ascertained, and to leave to the operative chemist to choose for himself the best method of preparing them. Thus tartarized antimony, nitrate of bismuth, the sulphates of iron, copper, and zinc, and the chlorides of mercury, and so forth, are precise chemical compounds, which are the same by whatever mode prepared. It is needless to prescribe a formula, except in such cases as *pulv. antim. comp.*, *hyd. c. cretâ*, *liq. plumb. diacet.*, which are distinctly pharmaceutical compounds, of arbitrary strength and composition, and which need to be determined by authority. This transfer, which has already been commenced in the late London Pharmacopœia, will very much simplify the Pharmacopœia, and will lighten the labors of its compilers, who will be left to their own duties, instead of usurping the functions of the manufacturing chemist, whose science changes and develops from day to day. The insertion in the *materia medica* of the salts of quina and morphia, and all the acids, has shown how impossible it is now found to determine chemical processes by authority, or to lay down one inflexible rule in the case of any formula of the kind. The *materia medica* of the three Pharmacopœias must thus be amalgamated and reinforced. Many vegetable substances may, in my opinion, be safely expunged, as I shall presently point out. The forms in the second part must be rendered uniform, and the system of weights, which has been complicated by the introduction by the Dublin College of a modified *avoirdupois* weight, must be fixed to one standard.

3. I contend, in the next place, that the Latin language should be adopted, as in the present London Pharmacopœia. An English translation might be published to satisfy those who prefer it, but the authoritative text must be in Latin; and this for the same reasons that induce us to continue the old custom of Latin prescriptions. Any arguments brought against the one system, must tell with equal force against the other. The arguments in favor of the Latin language are distinct and decisive. It is the language of science. Chemical terms are given more simply and unmistakably, botanical names are only recognized in Latin. It is a language

understood by the learned throughout the world—the only universal tongue. Its adoption has given to the London Pharmacopœia an advantage above all European codes, which it might not else have obtained. Its abbreviations are precise, and are well understood by dispensers, which is found a great convenience in prescribing. And lastly, it is not understood by the common people, nor by the majority of the patients. With the English tongue the contrary is the case. There is no preciseness about it. Many of our medicaments have several names, and one appellation may indicate any out of several distinct substances. It may suffice to instance copperas, orange, vinegar, vitriol, bark, almond, verdigris, camomile, nightshade, hellebore, poppy, turpentine,—names which I have taken indiscriminately. The English language is but little understood abroad, but Latin formulæ are read and understood all over the world. The former is not capable of being much abbreviated, because these abbreviations are not recognized, and would be unintelligible. If written in full, it is no clearer than Latin to the properly-trained dispenser; whereas its being understood by the patient would be a great source of embarrassment, inasmuch as our endeavors to administer opium, colchicum, arsenic, mercury, &c., to nervous patients who understand their own cases, and “know that their constitutions will not bear them,” would often be ineffectual.

There should be no change in the present system of chemical nomenclature and equivalents. The introduction of the system of atomic weights, recommended first by Gerhardt, and adopted by Brodie, Williamson, and some others in England, would utterly revolutionize our formulæ from beginning to end. Fortunately for us, the habit of doubling the elementary equivalents of oxygen, sulphur, carbon, &c., is by no means generally adopted, and, with other equally daring innovations, is likely to die out before long. It is hardly necessary to point out the danger of tampering with the accepted names of the chlorides of mercury, the compounds of arsenic, and other powerful medicines. We prefer to leave things as they are, and decline to sit down and commence *de novo* our study of chemical names, at the bidding of every rash speculator who may choose to propose an alteration.

5. In the next place, we cannot at present see our way to the substitution of any new system of weights and measures. The adoption of the avoirdupois instead of the troy weight in the late pharmacopœia of the Dublin College has caused great consternation and confusion amongst the pharmacutists of the sister isle. The object was to assimilate pharmaceutical weights to those employed in trade. But that object has only partially been attained, inasmuch as the lb avoirdupois is subdivided by the Dublin College into ounces, drachms, and scruples, after the manner of troy weight. The necessity

of decimal numbers in these subdivisions is almost fatal to their practical adoption. Nor is it possible for us to adopt the French decimal system, admirably simple though it is, inasmuch as the kilogramme of 15,434 grs. troy is a weight which has no analogue whatever in our commercial system.

There can be no doubt that a decimal system of our own might be adorted with very great practical advantage. We must wait for its legal adoption in commerce before we introduce it in pharmacy. On the other hand, it would be idle to take up the present avoirdupois weight, when it may any day be subverted by an improved decimal system in the world without. The first step to such an arrangement has just been made in the legal adoption of the *cental* of 100 lb avoirdupois. By this, the rule is established that the lb avoirdupois shall be our English standard, I may suggest, as a matter worth consideration, that this lb might very conveniently be subdivided in the decimal manner. 1 lb = 7000 grs. Let the new decimal grain be instituted of 7-10ths of the present grain. Then, 1 lb = 10,000 grs., which being divided successively by 10, we have 1000, 100, 10, 1.

lb.	=	10,000	dec. grs.	=	7000	present grs.
oz.	=	1,000	“	=	700	“
dr.	=	100	“	=	70	“
scr.	=	10	“	=	7	“
gr.	=	1	“	=	$\frac{7}{10}$	“

We should then have a ponderary system of perfect simplicity and neatness.

The decimal pound would be identical with the standard avoirdupois pound.

The decimal ounce = about  $1\frac{1}{2}$  Troy oz.

The decimal drachm = just  $1\frac{1}{4}$  Troy dr.

The decimal scruple = „ 7 Troy grs.

Some such system as this must, sooner or later, be introduced as the world advances. It might easily be applied to fluid weights and measures. The imperial gallon, = 70,000 grs. of water, would become 100,000 grs. It might be divided into 10 pints of 10,000 grs. each, and a pint be then subdivided as the lb.

6. With regard to the important question of what remedies and what formulæ are to be excluded from the Pharmacopœia, while I state my own feeling, I beg respectfully to invite the opinion of those members of the profession who may have given attention (and who has not?) to this important matter. The lists of the three Pharmacopœias, if added together, would burden us with a number of old-fashioned names with which we would readily dispense. Some sacrifice must be made by each, and a spirit of friendly accommodation shown by their supporters. As the Roman triumphs brought each a list of proscribed friends whose lives they offered up on the shrine of their union, so must the united Pharmacopœias set an example of self-abnegation.

Thus, as a melancholy indispensable in our

new pharmaceutical reform bill, I beg to present a list of rotten boroughs for disfranchisement—a catalogue of drugs drawn from the *materia medica* of the three Pharmacopœias whose constituencies, or the doctors who prescribe them, have become so extremely limited that it seems scarcely necessary to retain them any longer.

My Index Expurgatorius would run much as follows:—

Absinthium, acetum, acidum aceticum (omit eight of these, and leave only a strong acid of 85 per cent., and a dilute acid of 5 per cent.), allium, althæa, anethum, angelica, anthemidis oleum, aurantii fructus, balsamum Canadense, barytæ carb. et sulph., calamina (replace by pure carb. zinc), calamus aromaticus, canna, cannabis, carota, cassiæ cortex et oleum, castoreum, centaury, chiretta, cinchona cinerea, cocculus, cornu et c. ustum (replace by pure phosph. lime), cyminum, dulcamara, euphorbium, gossypium, hemidesmus, inula, lactuca, lactucarium, lauro-cerasus, lauri baccae, linum cath., lixivus cinis, lupulina, malva, marmor, matico, melissa, menyanthes, mori succus, mucuna, origanum, ossa, petroleum, plumbi carb., plumb. ox. rubrum, potassæ bichromas, potass. carb. impura, rhamni succus, saccharum commune, sacch. lactis, sagapenum, salicis cortex, sassafra, simaruba, spigelia, spiritus pyroxilicus, spongia, stannum, tapioca, terebinthina veneta, ulmus, viola. In all seventy-four.

This would make a great clearance, after which we should be able to see our way better. Half of the list are superfluous—i.e., rendered unnecessary by the existence of better drugs of the same kind. The others are useless, or nearly so. I shall be glad, if called upon, to give my especial reasons for wishing to expunge any particular member of the foregoing list.

With regard to the formulæ, an amalgamation must of course be made, and all discrepancies must cease. As far as possible, the present London formulæ may be retained, because liable to very little exception. But their number, as I have said, may be materially curtailed by the removal to the *materia medica* list of those pure chemicals of which it is unnecessary to prescribe the mode of preparation. Most of the additions to the last London Pharmacopœia were wisely made. But the strained preparations of the gums are objectionable, as in the process the essential oil is partly lost. Linimentum saponis is solid at ordinary temperature, and requires to be altered.

I may mention some drugs and forms at present peculiar to either the London, Edinburgh, or Dublin Pharmacopœias, but which should by all means be introduced into the new one. In the London Pharmacopœia: atropia, its sulphate; phosphorus; granati rad. cort.; sulphur precipitatum; the distinct oils of vegetables; the concentrated infusions (cinchona); tinct. quinae co.; the ammoniated tinct. colch. co. In the Edinburgh Pharmacopœia we find filix mas. In the

Dublin Pharmacopœia, glycerina. I would exclude the valerianates of the Dublin Pharmacopœia, which are not to be relied upon; also the pulvis ferri of Quevenne, preferring much the saccharine carbonate of the London Pharmacopœia.

7. What remedies and forms may most advantageously be introduced in addition to those now remaining? On this point very great caution must be observed. Two rules may be safely laid down for our guidance. 1st. Remedies and forms extensively used in practice, where not obviously irrational, should be introduced. 2nd. Remedies and forms which may safely be recommended on sure theoretical grounds, or which chemical knowledge enables us to substitute for substances already in use, may be included, but with greater caution.

To the lists of preparations of the alkalies, the sulphurets of potassium and sodium, which are an admirable means of administering sulphur internally or externally, may be added; also the phosphate and benzoate of ammonia, both advisable as having the power of keeping uric acid in solution in the urine. To the preparations of iron the lactate may be added, and a tincture of the potassio-tartrate substituted for vinum ferri, which is of very uncertain strength. For antimonial powder, the preparation of which is most unscientific, and which in the last London Pharmacopœia is reduced to the verge of absolute inertness, a mixture of a small proportion of teroxide of antimony with phosphate of lime may be adopted. In the preparation of mercurial pill and ointment the use of some old mass to oxidize the quick metal should be prohibited, and about 1 per cent. of protoxide of mercury, the chief active element of these compounds, may be incorporated instead. A tincture of chloroform, of about ten per cent. strength may be used instead of the variable mixture prescribed so widely as "chloric ether."

The number of alkaloids and other active principles of plants should be increased. Aconitia, of which a certain mode of preparation has been published, should not have been omitted from the last London Pharmacopœia. The principles of conium, hyoscyamus, tobacco, lobelia, and other active drugs, might be retained in greater safety if combined with an acid, such as sulphuric which renders them very soluble in water. For convenience of prescribing, and the avoidance of mistakes in dispensing such powerful poisons, I would recommend that standard solutions of one certain strength of dose should be ordered in the British Pharmacopœia. Such solutions would be uniform in strength, and more to be depended on for certainty and safety of effect than any tincture, juice, infusion, or extract of the plant, the amount of whose active principle of course varies much. Mistakes would be next to impossible if all the solutions of the Pharmacopœia were so diluted that the ordinary dose for an adult man should be just one drachm, and in no case more or less. This is already the

case with the liquor hydrargyri, bichloridi, and solutions of morphine hydrochloras and acetate. The liquor ammoniac must be diluted liquor ammoniac acetatis concentrated, arsenical solution made ten times weaker, liquor potassæ and liquor potassæ carbonatis diluted with one measure of water; the diluted acids mixed with three parts of water. This would very much simplify prescribing, and make dispensing safer. Graduated solutions of drachm strength may be made of the active principles of the following vegetables:—hyoscyamus, conium, aconite, hemlock, tobacco, lobelia; also of quina and cinchona. Resinous medicines, as guaiacum, jalap, scammony, perhaps rhubarb, may be exhibited in solution by means of alkali, as I have elsewhere recommended. These alkaline drachm solutions would be far more easy of absorption than the undissolved resin, which must undergo the action of an alkali before it can pass into the blood.

Along with this plan of drachm solutions, it would be highly desirable that tinctures for internal use should be brought to a uniform standard of two drachms for a dose, and all infusions, decoctions, and mixtures, to a dose of one ounce. The tinctures of cantharides, aconite, opium, conium, stramonium, &c, being thus diluted, would be no longer sources of danger. The solutions not intended for internal use should be kept in a separate part of the druggist's shop, and labelled *Poison*. This seems to me to form a simple solution of a pregnant question that has been much agitated of late.

8. The object of the changes which I have recommended may be stated in one word as *simplification*. Out of manifold reforms on a subject which has much engaged my attention, I have culled a few of the more prominent, in order to present them to the notice of the profession. The British Pharmacopœia must soon be taken seriously in hand; but ample time must first be given to elicit all discussion that may pave the way for the compilation of a volume that, whatever its faults or its excellencies, must serve as our prescribing manual for many years to come. Let us hope that the result of these deliberations, in the hands of a body of men who have been selected as most worthy to represent all grades of the profession in the three kingdoms, will be worthy of them and of us.

## Medical Societies.

MAY—JUNE.

### MEDICAL SOCIETY OF LONDON.

MR. HILTON, F.R.S., President.

MR. WADE read a paper on the

#### TREATMENT OF STRICTURE OF THE URETHRA.

He said that it was well known that the means adopted by surgeons for the relief, or cure, of urethral strictures were usually classed under three heads: 1st, dilatation; 2nd, the application of some escharotic substance to the diseased urethral tissues; 3rd, division of the obstruction, either from within the urethral canal by an instrument, as the lancetted catheter, or some one or other of a host of contrivances; or from without by external incision, now commonly called perineal section. Unaided, or simple, dilatation was the method which for a long time had been relied upon by British surgeons for the relief, or cure, of urethral stricture. There was, he believed, no better method of proceeding in a very large proportion of cases, and such has been its successful results, that many very able surgeons have discountenanced every other mode of treatment. His own experience had long convinced him that the great error with regard to dilatation had been an attempt to do too much at a time, by which the disease had been aggravated instead of relieved. The urethra had, in fact, been too frequently treated as if it were an inert, lifeless tube, instead of a living structure, possessing more or less exquisite sensitiveness. Mr. Wade then fully described the different kinds of dilatation, and the instruments commonly used in the different methods, and said he would not pass over, without comment, a kind of dilatation, to which the term "special" had been applied. Particular instruments of various kinds has been invented for the purpose of effecting dilatation more properly than those in ordinary use. There were dilators of water, of mercury, and of air, which had been much lauded by their inventors. He had as yet no reason to believe these dilators to be preferable, or even comparable, to those in ordinary use, such as bougies, catheters, and sounds, which are much more manageable than the former. He must not omit to mention two modes of effecting prompt dilatation which had lately attracted considerable attention—those of Mr. Thos. Wakley and of Mr. Holt. The dilator of Mr. Holt was a modification of Perrève's instruments. Mr. Thos. Wakley's ingenious instruments were too well known to need description. From the strong testimony of their good effects which both these gentlemen had brought forward, it could not be doubted that in many cases these dilators might be used with advantage to the patient. Urethrotomy, or internal division of strictures by the lancetted catheter and other cutting instruments, had

been but little practised in this country. In this method, division of the stricture was effected, either from before backwards, or from behind forwards. Mr. Wade then described the various modes which had been resorted to by English and foreign surgeons to effect these objects. Perineal section, as described by Mr. Syme, was a "simple and easy mode of curing permanently the most difficult cases of urethral stricture, and unattended with danger to life." That "division of a stricture by external incision is sufficient for the complete remedy of the disease in its worst form; that in cases of less obstinacy, but still requiring the use of the bougie, division is preferable to dilatation, as affording relief more permanently and safely." From such a description from such high authority it would not excite surprise that the new proceeding became for a time the fashion. No operation had probably been more fully tested than perineal section. That the sanguine expectations regarding the extraordinary efficiency of this operation entertained by Professor Syme should have ended in disappointment, was nothing more than had occurred with other remedial measures which had disappointed expectation. Long before Mr. Syme's adoption of perineal section, Sir Benjamin Brodie recommended the same operation in traumatic stricture, when the contraction would not yield to ordinary dilatation. Sir Benjamin observes, "that in such cases a small staff is to be introduced into the bladder, and the cicatrix of the urethra divided from the perinæum, a gum catheter being introduced afterwards, and allowed to remain until the wound is healed over it." That perineal section was neither a certain cure for urethral stricture, nor unattended with danger to life, was now well known. Much information regarding perineal section would be found in the treatises on Urethral Stricture by Professor Lizars and Mr. H. Smith.

Mr. Wade observed that the only method of treatment there remained for him to notice was that of the application of caustic to urethral strictures. It was almost superfluous for him to say that nitrate of silver and potassa fusa, had, for a long time being the only caustics employed for the relief, or cure, of such obstructions. Of the effects of the nitrate of silver in these affections, he had personally had but little experience, having for a long time entirely given up its use in such cases. Those, however, who desired information on the subject had only to read Sir Everard Home's work on "Strictures of the Urethra." It might be questioned if the powers of any remedial agent were ever more fully and severely tested than those of the nitrate of silver by that eminent surgeon. To Mr. Whately, the contemporary of Sir E. Home, we were indebted for the introduction and strong recommendation of potassa fusa as a valuable therapeutic agent in urethral stricture. With regard to the employment of the caustic alkali in this disease, it would be unnecessary for him to

offer many observations, having so frequently recorded his high opinion of its extraordinary efficacy as to be looked upon as rather enthusiastic on the subject. Having for more than twenty-five years had constant opportunities of fully testing the powers of the potassa fusa, as an adjuvant in the dilatation, in the more obstinate forms of the urethral stricture, he could truly state that every year's experience had increased his high estimation of its value. The effects of the nitrate of silver and of the potassa fusa did not admit of a comparison, as they were totally dissimilar; the former, when freely used, from its tendency to cause adhesive inflammation, often increases the urethral obstruction, whilst the remarkable solvent powers of the latter have no such effect. The effects of the alkaline caustic were, indeed, so strikingly superior to those of the nitrate of silver, that the preference which has generally been given to the latter was not easily to be accounted for. Mr. Wade, after having quoted some passages from Mr. Whately's work on Stricture, in illustration of the method of using the potassa fusa adopted by the latter, then briefly described that employed by himself. Mr. Wade rarely employed any other instrument for supplying the potassa fusa to the stricture than the common wax bougie. The cases in which he had found the potassa fusa useful might be generally described as—1st, stricture having a cartilaginous hardness, impermeable as well as permeable; 2ndly, strictures which bleed more or less freely on the introduction of the bougie; 3rdly, irritable strictures. Time would not permit him to give cases in illustration of this method, or to enter further into details. Those, however, who were interested in the subject would find in his work on "Urethral Stricture" all the information it was in his power to afford. It would be seen that his views with regard to this method of treatment differ materially from those of Mr. Whately. He (Mr. Wade) did not use the potassa fusa in all cases indiscriminately, but only in such as do not yield satisfactorily to dilatation. He had found it generally necessary to employ the caustic alkali in much larger quantities than Mr. Whately recommended, the minute portions used by him having produced scarcely any perceptible effect upon strictures, which, however yielded to its more free application. But its greatest value was in impermeable strictures, to which Mr. Whately did not consider it applicable. These observations could not be considered as disrespectful to that able surgeon, as all improvements in our profession are progressive.

In concluding this part of his subject, it might be well to state that the method of treating urethral stricture by potassa fusa was brought forward by him in a paper read at the Westminster Medical Society on the 15th of February, 1840. The testimony which from time to time he had published regarding its efficiency and safety had, he was happy to say, at



length led to its employment by some of our best practical surgeons; and he had entertained not the slightest doubt that the potassa fusa would, at no distant period, be regarded as one of the most valuable therapeutic agents in urethral stricture.

With regard to constitutional treatment, he would only observe that strict attention to the general health is as necessary in urethral stricture as in other local affections of a more or less serious character; and that the surgeon will do well to bear in mind the principles inculcated in Mr. Abernethy's memorable "Observations on the Constitutional Origin and Treatment of Local disease." In these days of "conservative surgery," it might be proper to ask how far the employment of caustic potash as a substitute for the knife may be regarded as entitled to any honor in this question. If an operation is the "opprobrium of surgery," any remedy which prevents the necessity of such operation is, at all events, "conservative." He (Mr. Wade) left others to determine how far the potassa fusa answers the purpose for which it is intended as a "conservative agent."

The conclusions arrived at from the preceding remarks might be thus briefly summed up: That simple, unaided dilatation is the method which should commonly be adopted; and that it will, in the great majority of cases, succeed in affording satisfactory and permanent relief. There were, however, numerous cases in which the relief obtained by this method would be neither sufficient nor permanent; and in these, the patient must depend, for any considerable improvement in his condition, either on the application of caustic to his stricture, or on its division by some cutting instrument.

That internal section, when practised anterior to the bulb, is attended with but very slight risk; but when had recourse to for obstructions at the urethral curve, it had not unfrequently proved dangerous.

That external division, whether practised according to the old method, in impermeable, or that of Mr. Syme, in permeable stricture, from its disastrous results, is an operation justifiable only in the most urgent cases.

That Mr. Syme's operation will very seldom be required, it being only applicable to permeable obstructions; as every surgeon knows that after an instrument has been passed through a stricture, the greatest difficulty of the case ceases.

That in whatever manner a stricture may be divided, to preserve the opening made by its division, in most cases it will be necessary to have recourse to the regular use of the bougie, or other dilating instrument, for a considerable length of time afterwards.

That in intractable cases, as a general rule, he believed that the use of potassa fusa would be attended with the most beneficial results; he was fully convinced of its being a perfectly safe proceeding.

In concluding these brief comments on the treatment of urethral stricture, he could truly say that nothing but the knowledge that the employment of potassa fusa in bad cases of stricture would in most instances prevent the necessity of resorting to operations attended with more or less danger, had induced him so perseveringly to bring before the profession his views with regard to its employment. He again recommended his professional brethren to give the potassa fusa a fair trial in the more intractable forms of urethral obstruction. It must be recollected, in recommendation of that plan of treatment, that it involved no danger; that it was impossible to do harm when properly applied; and that even should it be deemed necessary to resort to the knife, the surgeon would at least have the satisfaction of knowing that he had done all in his power to save the patient from a formidable, dangerous, or even fatal operation.

The President said that Mr. Wade had shown both the efficiency and the safety of the potassa fusa in the more intractable forms of urethral stricture. It was very desirable to ascertain if Mr. Syme's operation were equally free from danger. Mr. Wade had fairly thrown down the challenge to the advocates of that proceeding.

Mr. Milton had brought before the Society some time ago an instrument similar to that now exhibited by Mr. Wade, for applying potassa fusa, but with a modification which made it, in his opinion, more economical and more practically useful. In general, however, he preferred using the nitrate of silver, by dipping the point of a bougie in the melted caustic and applying it through a canula to strictures. He thought well of potassa fusa in certain cases, but did not think it so generally applicable to the treatment of stricture as contended by the author. The latter, he conceived, had misapprehended the object of Syme's operation, which was successfully resorted to in cases in which caustics were unavailing.

Mr. Rice had used potassa fusa in the treatment of urethral stricture, at the suggestion of the author, with almost invariable success. In some cases hæmorrhage has occurred, which, however, had been checked by the application of ice; and in others there had been a purulent discharge, which had ceased on the administration of muriate of iron; but on the whole, he thought most highly of the practice.

Mr. Birkett wished to know whether potassa fusa made a permanent cure of urethral strictures, or only enabled the patient to micturate better. Mr. Syme's operation is professed to make a permanent cure, and, in his own experience, it had been successful; but there is great difficulty in following up cases, and knowing the ultimate results. He attached great importance to the constitutional treatment of urethral stricture, and seldom resorted to instrumental treatment until the former had been tried. By pre-



parative treatment, together with leeches, cupping the perinæum, and warm baths, the irritability of the stricture would often be so far overcome as to enable instruments to be used, which would otherwise have been impossible.

Mr. Price had used the potash in one case with complete success.

Mr. Henry Smith had used *potassa fusa*, at Mr. Wade's suggestion, very largely, and subscribed very heartily to its value. In comparing its merits, in the cure of urethral stricture, with Mr. Syme's operation, it should be borne in mind that no objection had been raised to the former, and that guardedly employed, it was perfectly innocuous to life. With regard to the latter, however, he had had many opportunities of judging of its results; and his belief was that whilst it gave great relief for a few months (provided the patient survived the operation so long), yet that, sooner or later, the stricture returned as tight as ever. He referred to cases in support of this view, and expressed a strong doubt as to the possibility of effecting a permanent cure of stricture.

Mr. Mackenzie, in support of the latter observation, referred to a case in which a gentleman had suffered from stricture for fifty years, and who, during that period, had successively consulted the most eminent surgeons of this country, with no more than temporary relief; and the result of his experience of the disease was that the occasional introduction of a bougie, and attention to the general health, ensured all that was to be expected from treatment.

Mr. Wade, in reply, said that he did not claim any novelty for the instruments which he had exhibited, as no doubt others of a similar kind had been used. They, however, sufficiently answered their intended purpose. He very seldom used them, except in cases in which there were false passages, as the soft bougie was far preferable for the conveyance of the caustic, being less likely than the former to cause urethral irritation. With regard to the nitrate of silver, he had found it quite inefficient in the worst forms of stricture. He had been most particular in restricting his recommendation of the use of *potassa fusa* to the more intractable forms of stricture, in which simple dilatation had previously failed. To avoid the possibility of misapprehension of Mr. Syme's views, he had quoted the very words used by that distinguished surgeon. When *potassa fusa* was used with the caution which he (Mr. Wade) had always taken especial care to recommend, none of the ill effects mentioned by Mr. Rice would result from its employment. None had ever occurred in his practice. In answer to Mr. Birkett, Mr. Wade believed that in cases in which the stricture was of slight extent, and especially if the fibroid transformation had not taken place, a perfect cure might be effected. In the more aggravated forms, in which there was considerable induration, and the alteration of structure was more or less extensive, he thought that the occa-

sional use of the bougie or sound was necessary to prevent recontraction—a measure which he always strongly recommended to the patient. Mr. Birkett could not think more highly of the desirability of proper constitutional treatment in urethral stricture than he did. With regard to the application of leeches and cupping to the perinæum—except in cases where there was a strongly-marked disposition to spasm—Mr. Wade had no faith in their utility. In hard, glistly strictures, leeches had seldom been beneficial, but rather hurtful, by debilitating the patient.

Mr. Price read a paper, entitled,

SOME OF THE CAUSES OF FAILURE FOLLOWING  
THE OPERATION OF EXCISION OF THE  
KNEE-JOINT.

The author commenced by stating that on two former occasions he had the honor of bringing the same subject before the notice of the Society, and had then pointed out many features of practical interest connected with the operation and the nature of those diseased conditions of the articulation which might, with the greatest propriety and advantage, be submitted to this method of treatment. On this occasion he would refer the Fellows to a consideration of those causes which rendered the operation more or less abortive. The observations which he now offered were drawn from an intimate acquaintance with the proceeding. He had been at very considerable pains in obtaining data of each case which had been operated upon in Great Britain and Ireland from the year of its revival by Mr. Fergusson in 1850 to the end of 1858, and to those surgeons who had courteously answered his numerous inquiries his best thanks were due. 160 cases of the operation during this period had come to the author's knowledge. Some of these had been published; but a large portion had not been publicly noticed, and it was solely by the kindness of various operators that they could now be brought forward. The author desired his special acknowledgments for the advantages he had derived from a perusal of the *Memoirs of Mr. Butcher* (of Dublin), *Mr. Jones* (of Jersey), *Mr. Henry Smith*, *Mr. Humphry* (of Cambridge), and the writings of other excellent surgeons. To Mr. Fergusson he owed his gratitude, for he was merely following his former teacher's example in endeavoring to place this great operation on a correct and firm footing.

Of the 160 cases which had been treated by the operation, the author had to record 32 deaths; the remaining 128 cases having proved more or less successful. When the removal of the articulation was followed by non-success, it was dependent upon various circumstances, and resulted in a complete or partial failure. When completely unsuccessful, it was followed by death or subsequent amputation of the limb; but when only partially unsuccessful, the limb, although freed from the cause of former annoyance, remained still a useless member. Of the

160 cases, the operation had been resorted to for disease in about 152 instances. Deformity at the articulation had been treated in this way, in preference to amputation, on six or seven occasions; while in one instance only, as far as the author was aware, had a severe injury, involving the joint apparatus, been subjected to this milder proceeding. The age of the youngest patient was three years, that of the oldest forty-seven years. In by far the larger majority of the cases the disease disorganizing the articulation was extensive and of long standing. As far as personal experience and earnest inquiries enabled him to judge, the author could positively affirm that great discretion had, for the most part, influenced the determination of the surgeon in resorting to this proceeding; and although the operation had been occasionally followed by non-success, still the mistake arose from extraneous causes, which were beyond the control of surgery. In one or two instances a want of experience had, perchance, led to an untimely resort to the operation, while occasionally a want of due anticipation of the resources of Nature had been overlooked. Amputation of the thigh was required on 18 occasions, at a more or less distant period after excision of the articulation. In one case only was the removal of the limb followed by death.

In the 32 instances in which death took place after removing the diseased joint, it was found to result from pyæmia in 8 cases, exhaustion in 6, irritation in 5, shock in 4, dysentery in 1, suppression of urine in 1, pleuropneumonia in 1, erysipelas in 1, peritonitis in 1, and acute phthisis in 1. Amputation of the limb, as already stated, proved fatal in 1 instance. In 2 cases which succumbed to the operation, the exact cause of death was unknown.

The author referred at considerable length to the particulars of each fatal case. Much stress was laid upon the slight amount of shock which usually followed excision of the joint; whereas in amputation it forms a frequent cause of fatality or severe complication.

The statistics of the mortality following the removal of this special joint for disease, when compared with those of amputation of the thigh for the same cause, showed a result favorable to the former proceeding.

Mr. Teale, of Leeds, has lately stated, that in 169 amputations of the thigh for disease in the London hospitals, during three years, 1854 to 1857, there occurred 38 deaths, or one death in every 4.12 cases; and in 134 amputations of the thigh for disease in provincial hospitals, during three years, 1855-56-57, there happened 33 deaths, or about 1 death in every 4 cases.

The average of fatal terminations in the 160 cases of excision collected by the author showed only a mortality of 1 in 5.

Mr. Bryant had, however, lately been able to adduce statistics showing about the same amount of success in amputation of the thigh. In chro-

nic disease of the joint, in a limited number of cases, the mortality had proved something less—about 1 in 7.

The author's statistics as to the fatality after excision coincided with those obtained by Mr. Butcher two years before, in a far less proportion of cases.

Excision of this articulation had proved totally unsuccessful without causing death. In the 160 cases mentioned, it was found requisite to resort to amputation of the thigh on eighteen occasions; but the operations were followed by only one death. The causes which led to the necessity of such a measure were the following:—

1st. The occurrence of non-union, or insufficient union, with necrosis of the ends of the bones, associated with abscesses of the soft parts.

2nd. The existence of abscesses, more or less acute, accompanied with hectic, night-sweats, and diarrhoea.

3rd. Erysipelas, and measles.

4th. Inappropriate management of the limb during treatment.

The condition into which the parts immediately associated with the operation had fallen, had been due, in some instances, to an erroneous selection of cases. Diffuse strumous infiltration of the ends of the articular bones was a disease which could not be treated by the operation, for it had proved futile in more than one instance. In the 18 cases in which amputation was required, it was necessary to perform this operation on 11 occasions on account of the unfavorable condition which the local parts had assumed. The earliest recurrence to amputation was on the ninth day, and the author himself had been compelled to remove the thigh in one case at the distant period of two years and three months. In four cases, amputation was demanded on account of erysipelas and general derangement. In 3 instances, from incompetent management of the limb, it was found impossible to keep the parts in apposition, and the amputating knife was required. The author then pointed out the requirements which would enable future operations of this character to be followed by greater success. They were, in fact, two: a careful and judicious selection of cases; and a more thorough appreciation of the importance of correct management of the limb. The splint recommended by the author was shown to have been productive of great advantages on many occasions. When excision of the joint had been followed by *only* partial success, it had been dependent—

1. On imperfect union of the divided ends of the bones, arising from a peculiar diathesis pervading the constitution.

2. From inappropriate after-treatment of the parts immediately concerned in the operation.

3. From taking away too great an amount of bony substance.

4. From the occurrence or persistence of abscesses in the soft tissues only, or complicated with slight disease of bone.

The nature of the bond of union between the cut ends of the tibia and femur varied greatly. In the larger proportion of the cases, the author had found that the uniting medium was primarily fibrous and flexible; sometimes it became subsequently osseous, but it more often retained its original character than was generally believed. Very useful limbs had resulted in instances in which the union was entirely flexible. Two cases in particular illustrated this fact: one under the care of Mr. Fergusson; the other, a patient of Dr. Cotton, of Lynn. The nature of the union was not unlikely to be materially affected by the method of treatment adopted; and the author insisted upon the advantage to be gained by perfect rest of the limb in the position assigned to it immediately after the operation.

When the epiphyses of the ends of the bones were removed, especially in young children, little doubt remained that arrest in development of the limb would ensue; attention to this feature was therefore necessary: Mr. Humphry had well insisted upon the point.

The persistence of abscesses about the parts was a frequent occurrence, but judicious treatment generally enabled the surgeon to overcome the mischief. Sinuses and swelling of the ankle and limb were not unfrequent sequents of some of the operations, but greater stress had been laid upon their existence than was expedient.

Such is but a brief statement of the main features of Mr. Price's paper. Several admirable examples of the operation, in patients under the care of Messrs. Fergusson, Partridge, Henry Smith, Childs, &c. &c., were exhibited to the Society. Some photographs of the author's cases, and many excellent water-color drawings, illustrated the various diseases for which the operation had oftentimes been adopted.

After some complimentary remarks from the President,

Mr. Chalk said he wished the author to point out those instances in which the operation had been adopted on account of strumous disease; as he considered the success of the operation was greatly dependent upon the nature of the affection incapacitating the joint.

Mr. Gay warmly congratulated the author upon the manner in which he had again brought this important subject under the notice of the profession. He (Mr. Gay), from what he had lately seen and read regarding the operation, was now greatly in favor of its more universal adoption. He was glad to hear the author insist strongly upon the necessity of a fit selection of cases to be submitted to this method of treatment. He also fully agreed with the observations which had been made regarding the persistence of sinuses after the operation. In conclu-

sion, he should be glad to know how many children had been operated upon out of the 160 examples recorded by the author.

Mr. Webber paid a compliment to the author for the extensive view he had taken of the subject, and was sure that such labors, directed in a right path, would lead to the beneficial practice of the operation,

Mr. Birkett offered some objections to the operation, which were founded on theoretical grounds; and stated, that in the hospital to which he belonged, few cases were deemed eligible for excision. From this fact, he was inclined to believe that the operation had been "jumped at" by many surgeons. The cases exhibited to the Society were most excellent in their results, and the paper read by the author showed that he had fully entered into the subject.

Mr. Henry Smith deprecated the expression used by the last speaker, and thought that, after the full and elaborate statements made by the author, and from what he (Mr. Smith) personally knew of the operation, the opinion that the proceeding had been "jumped at" was erroneous in every way. He fully concurred in many of the observations which had been made, and now, more than ever, he was prepared to give the operation the support he had always vouchsafed to it, believing it to be in every many respects superior to amputation of the thigh.

Mr. Bryant alluded at some length to the statistics of amputations which he had lately produced, and referred to those cases of diseased conditions of the knee-joint which were of most common occurrence. He had no personal experience of excision of this special joint, as those cases demanding decisive surgical interference had been treated by amputation. He was happy to be enabled to state that amputation of the thigh for chronic disease of the joint had proved very successful in his own hospital.

The President having offered some observations,

Mr. Price replied at length to the various questions which had been asked.

Mr. J. L. Milton read a paper

ON THE NATURE OF THE SYPHILITIC VIRUS, AND THE MODE IN WHICH IT ACTS.

The author began by remarking upon the peculiar tendency to ulceration which characterizes syphilis more than any other disease, there being no tissue capable of taking on this action, in which it is not occasionally manifested. He objected to the forced comparisons made between syphilis and the exanthemata, they being not only much more rapid in their evolution, but accompanied by a different process. They ran a definite course, while no one could foretell the type syphilis would assume. In vaccinia and variola the constitutional malady and primary sore ran their course together. Neither did syphilis resemble poisoned wounds, which always tended to assume a

very dangerous, uncertain, asthenic inflammation, over which art had considerable control. He therefore argued, upon these and other grounds, that in syphilis there was a particular class of actions set up; and then the question came,—By what agent are these put in motion? The invariable answer was, a blood-poison—a term which had not even been defined, and which, so far as palpable proofs were concerned, was as purely a supposition, a symbol, as any of the old doctrines of a ferment, an acid, a disagreement between the naturals and non-naturals, or any of the countless crudities with which vanity and dogmatism have ever encumbered medicine. It was difficult to understand what most authors meant when they used this term; Mr. Milton, therefore, proposed to take for discussion the doctrine of Professor Miller. This author distinctly says, that “the virus enters the system through the circulation;” and that “in the system a second zymotic process is established.” He (Mr. Milton) reduced this doctrine to three propositions:—

1st. That a diseased secretion, which might be called a virus, is conveyed from one person to some part of the surface of another.

2. That this results in the formation of an ulcer, which possesses the wonderful faculty of discharging its secretion two ways at once—out of the system, and into the blood.

3. That this secretion accumulates in the blood till some accident conducts it off by the skin.

The theories of its being a ferment or parasite received their due meed of attention. To this he (Mr. Milton) objected, that as the ulcer discharges from its surface, in the most harmless way, an infinitely larger quantity of the virus than is ever taken up into the system, absorption would be about the greatest blunder in such a case that we could attribute to Nature; an express arrangement, indeed, on her part for the production of secondary symptoms. Absorption of the virus could only take place through the veins or lymphatics, and it was in his mind a question of how far this was possible without solution or digestion of the pus. An amount of pus, too, such as a very small chancre will yield, produces, when introduced into the veins, oppression, anxiety, prostration, and serious suppurations. The hypothesis that the virus enters the blood and lurks in it, simply meant, in plain English, that a few globules of pus reside for months, or years, in the midst of an immense body of fluid, undergoing such ceaseless change, that perhaps one-fifth of its entire bulk is thrown off every twenty-four hours: that a poison fructifies for years in a highly vitalized fluid, and that while the organism can throw off daily pounds of secretion by a natural process, it cannot get rid of a few globules of pus, or a few drops of serum, without disturbing the whole group of animal functions. There was no necessity to invent any such machinery as a blood-poison. Small-pox and vac-

ination, while they did not communicate any lasting changes to the blood, impressed such alterations on the organism as to make it incapable of taking on the disease again. In hydrophobia the poison had been considered to lurk in the same way as in syphilis, yet though we had the most exhausting convulsions, we had no specific change in the blood. The syphilitic chlorosis, often viewed as a proof that the virus had taken up its abode in the system, was simply a coincident effect of the action of the virus; moreover, it was not an inevitable result when no mercury was given. The author submitted that there was no proof of a virus being expelled by secondary affections, nor would such a fact, if granted, affect the question now raised. If the virus were expelled in this way, the most rational plan would be, not to interfere with the efforts of Nature to eliminate it. When once domiciled in the blood, how does the mercury get at it. The metal was insoluble, and experiment had shown that if forcibly introduced into the veins, it could not pass the capillaries in the lungs. All the experiments made by injecting foreign matters into the veins proved that the resistance of the organism commenced at once; that Nature's efforts tended to bar the passage against their entrance, not to absorb and eliminate. Finally, he contended that it was possible to explain the phenomena of disease without resorting to the gross mechanical theories of humoralism.

Dr. Camps thought that the author had not quite fulfilled his pledge of explaining how the syphilitic virus acts. He (Dr. Camps) considered that we must look upon syphilis more than any other as a blood-disease. It had been admitted to be a hereditary disease; how, then, could it pass to the fœtus except through the blood?

Mr. Milton asked why it must pass through the blood, when certainly not a drop of that fluid entered the tissues of the embryo?

Mr. Lee said the author had cleverly confounded syphilitic and purulent infection. He (Mr. Milton) argued that, because we could not find pus in the blood, it did not enter the blood; yet jelly entered the blood though we could find no trace of it in the circulation, and pus introduced into the circulation produced congestion of the intestines, while there was no trace of the poison detected in the blood. It was to be remembered that it was not the sores yielding pus which were followed by secondary syphilis—a most important point to keep in mind. He (Mr. Lee) was also of opinion, that syphilis was not entirely to be considered as a disease of the blood, since when the site of the chancre was cut out, the cut surface soon began to take on the syphilitic action. The infecting sore was not always to be destroyed by caustic within five days. On this point, and on the statement that the sore infecting the system begins as a pustule, he (Mr. Lee) was at variance with M. Ricord.

Dr. Camps asked if Mr. Lee meant to say that when a syphilitic lump was cut out, and the action returned, this showed that the disease was not in the blood?

Mr. Lee.—Certainly; a poison, if really circulating through the frame, would act generally, and not attack the cut part merely.

Mr. Cornish could not see why the author should maintain that syphilis was not a blood-poison. The subject was obscure.

Dr. E. Smith had always considered the dispute between the solidists and humoralists as of very little importance; yet it must be admitted that such vague terms as blood-disease were most objectionable; they stopped all inquiry. The author must allow that at all events the blood formed part of the general system. Specific matter he (Dr. Smith) thought must be taken up into the blood, so that there may be specific diseases of the blood. Mr. Milton had denied that poisons were found in the blood, yet alcohol had been traced through the circulation to the brain.

Mr. Milton replied that Mr. Lee and Dr. Smith had themselves, on two points at least, furnished the most conclusive proofs of the soundness of his views. He had not denied that narcotic poisons entered the blood.

#### ROYAL MEDICAL & CHIRURGICAL SOCIETY.

F. C. SKEY, Esq., President.

CASE OF ANEURISM OF THE THORACIC AORTA, WHICH OPENED INTO THE TRACHEA AND LEFT BRONCHUS, AND IN WHICH HÆMOPTYSIS OCCURRED FOUR YEARS AND EIGHT MONTHS BEFORE DEATH. WITH REMARKS ON THE CIRCUMSTANCES ATTENDING RUPTURE OF ANEURISMS, ESPECIALLY ON MUCOUS SURFACES.

BY W. T. GAIRDNER, M. D., F. R. C. P. EDIN.

The subject of the history was a merchant of robust frame, of more than average intelligence, and who at the time of his death was about forty years of age. He was under the author's care during the latter four years of his life, and, from his own statements, a very distinct history was obtained, extending back to ten years before the fatal result. It was then that he first complained of pains in the left side and shoulder, which were regarded as rheumatic, and were always relieved by violent exercise. They were, however, unaffected by treatment; and after continuing in very much the same state for more than three years, he was for the first time informed that there was some affection of the great vessels. Pulsation became evident in the following year, and the sputa, though occasionally of a yellow color, were never distinctly blood-tinged till the autumn of 1853, when hæmoptysis to an alarming extent occurred on two distinct occasions in the same day. After this, he submitted to a variety of treatment, and at length came under the care of the author in the following April. He then exhibited every

sign of a large aneurism of the aorta, presenting itself in the left front just under the clavicle, and passing upwards and backwards so as partially to involve the left sub-clavian. The left pulse was at this time weaker than the right, and in the end became nearly lost. He was directed to take gentle exercise and partially to resume business, which he had abandoned; to take light nourishing diet, and abstain from medicine; now and then, when the pain was severe, to put on two leeches over the tumor; and to think as little as possible of his complaint, except by way of caution against violent movements. Under this plan his general health improved, but the disease slowly made progress; and he continued to bring up a more or less tinged expectoration—sometimes rusty, sometimes purple—with only the intermission of a few weeks at most, during the remainder of his life. During the last year he had severe pain, almost like angina pectoris; he lost flesh; had occasional difficulty in swallowing; and brought up blood more copiously, though never in large quantity nor unmixed. At length a small gush of blood, which probably did not exceed nine or ten ounces, occurred, which terminated his life by suffocation in a few minutes.

On post-mortem examination, the aneurism was found involving the descending aorta from the origin of the left sub-clavian to the extent of several inches. It lay behind and above the left lung, to which it was firmly adherent. The left bronchus was stretched over the sac, and its posterior wall was absorbed throughout, the coagulated fibrin being freely exposed to view from the interior of the bronchus. Another small opening, with smooth edges, evidently of long standing, existed at the bifurcation of the trachea, and also rested upon firm solid, laminated clot.

The chief interest of the case consists in the two circumstances—first, the very long period which existed between the occurrence of rupture of the sac and the ultimate fatal event; and secondly the occurrence of hæmorrhage, in a modified form, at intervals, during the whole of that very long period. The author then discussed the question of hæmorrhage from aneurism generally, pointing out that the case of the late Mr. Liston, recorded in *THE LANCET* for December, 1847, was, perhaps, the first to call the attention of the profession to the possibility of hæmorrhage occurring from this source so long as five months before death, the minor discharges of blood which had occurred being before this time referred to other causes than perforation of the sac. He (Dr. Gairdner) had only been able to trace nine or ten instances in which severe hæmorrhage was recorded to have occurred more than one month before death, and only one exceeding Mr. Liston's case—namely, a preparation in Guy's Hospital pointed out by Dr. Sibson, in which the patient had severe hæmoptysis seven years before death.

It happened to the author some years ago, to be able to place on record another instance, in which an aneurism of the superior mesenteric artery had given rise to hæmorrhage from the bowels twenty-two months before the patient's death. (*Monthly Journal of Medical Science*, vol. x. p. 83.) Dr. Gairdner then proceeded to recite cases in which aneurisms, opening externally, had ruptured and given rise to very severe hæmorrhage at long intervals before death: one communicated to Mr. Syme (*Monthly Journal of Medical Science*, vol. x. p. 89), where the man lived four months, and died of typhus fever; another recorded by Mr. Stokes ("Diseases of the Heart and Aorta," p. 582), in which frequent hæmorrhages took place during a year, after which the tumor became dense and hard, the cough and dyspnœa abated, and three weeks after the last attack, the patient left the hospital, saying that "he felt quite well." Dr. Gairdner attributed the minor hæmorrhages, in almost all cases to rupture of the sac; and this cause of hæmorrhage is very apt to be overlooked when it amounts to no more than an inconsiderable leakage, which may last for weeks or even months. He described four varieties of hæmoptysis likely to occur, and endeavored to associate them with differences in the site and relations of the tumor, and the changes occurring in the lung structure. These he characterized as being rarely of an inflammatory character, but more commonly either of the nature of collapse from pressure on a bronchus, or of chronic infiltration of blood directly or indirectly from the aneurism. He called in question the explanation usually given of these minor hæmorrhages, that they are produced by venous congestion—1st, because, when pressure on a vein has occurred, hæmorrhage has almost always been associated with direct pressure of the aneurism on the trachea or bronchi; 2ndly, because, in his experience, some of the most characteristic cases of slight and continuous hæmorrhage had been from aneurisms in which no pressure on the pulmonary veins were possible. He would not venture to assert that blood in the discharges of a patient affected with aneurism *always* indicated the communication of the sac with a mucous membrane, but he believed it generally did so, more especially when hæmoptysis occurred, if the aneurism pressed on the trachea, and if it were unaccompanied by indications of pulmonary change.

Dr. Gairdner next pointed out the importance of this conclusion with reference to diagnosis in obscure cases. He said that in aneurisms characterized chiefly or exclusively by laryngeal symptoms, it is often extremely difficult to arrive at a satisfactory conclusion as to the cause of the very distressing dyspnœa. In this class of cases, he considered the repeated presence of even small quantities of blood in the sputum a most valuable means of diagnosis; for if there be laryngeal dyspnœa and stridulous respiration, if the epig-

lottis be not thickened, if the mucous membrane of the larynx, so far as it is within reach of the finger, be sound, and if with these signs, positive and negative, there be a persistent tendency to even the slightest amount of blood in the sputum, while auscultation and percussion give negative results, both as regards the lungs and heart, aneurism may, in the opinion of the author, be predicated with as much certainty as is possible without the physical signs of tumor. Further, such an aneurism may be assumed to be small, arising from the back part of the arch, or from the commencement of the innominate artery, and so placed as to entangle either the left or the right recurrent nerve. He concluded his communication by some remarks on a case which he thought exemplified the mode in which these minor hæmorrhages usually occur. Five or six papillary eminences marked the surface of the trachea where its wall was thinned by pressure of the aneurism, and on each of these distinct pale orifices exist, only one of which was actually perforated; and the discharge of blood had been in this case very inconsiderable.

Dr. Sibson assented to the position laid down in the paper, as to the value of the hæmoptysis and stridulous breathing as diagnostic of aneurism of the descending aorta. In support of Dr. Gairdner's view, he might state that in one-fourth of the cases of aneurism which he (Dr. Sibson) had collected there was hæmoptysis; in another fourth, stridulous breathing. He thought the symptoms mentioned were more frequently connected with aneurism of the descending arch than of any other portion of the aorta. The dyspnœa in these cases might not, he thought, be dependent always on pressure on the recurrent nerve, but on pressure of the par vagum: the latter would act constantly in producing the dyspnœa, the former only occasionally, as during the exertion of speaking, coughing, &c.

Dr. Brinton related the case of a costermonger, who was suddenly seized with aphonia and stridulous respiration. He was examined carefully, but no physical sign of disease of the heart or lungs was found. He subsequently died suddenly, death being preceded by hæmoptysis. A small aneurism of the descending aorta was discovered, exerting pressure on the recurrent nerve.

Dr. Markham mentioned an instance of aneurism, indicated by physical signs and the expectoration of large quantities of blood, which had occurred to a porter of St. Mary's Hospital, who had been employed in most laborious work. The hæmoptysis took place three or four years since, but he recovered completely, and was now in the Artillery. This case was an illustration of the length of time aneurism might exist, after the occurrence of hæmoptysis without proving fatal.

Dr. Sibson had no doubt that the case alluded to by Dr. Markham was one of aneurism, but not, he thought, of the descending aorta.

Dr. Gairdner had, since his arrival in town, inspected the preparation in Guy's Hospital to which he had referred in his paper. He saw no reason to doubt that this was a case of aneurism which existed for seven years after the occurrence of hæmoptysis. The woman was fifty-four years of age, and was a patient of Dr. Bright. She was subject to palpitation and pain between the shoulders. The report of the case did not state how much hæmorrhage there had been six or seven years before. There were no tubercles in the lung nor disease of the heart. The case, then, must be classed amongst those of aneurism which lasted more than one year after the occurrence of hæmoptysis. The point of his (Dr. Gairdner's) paper was to show that the occurrence of persistent but not great hæmoptysis with stridulous breathing was a diagnostic mark of the existence of aneurism. He contended that when such symptoms were present, and the lungs and heart were sound, it might be almost positively concluded that aneurism was present. He referred to two cases which had occurred to him some years since, in which these symptoms were present. In one, the disease was so obscure that tracheotomy was performed; in the other, Dr. Horace Green, who saw the patient advised the application of caustic, "as there was ulceration of the epiglottis." Both cases terminated fatally, both being cases of aneurism; and in the latter instance the epiglottis was perfectly healthy.

**A CASE OF POPLITEAL ANEURISM SUCCESSFULLY TREATED BY FLEXION OF THE KNEE-JOINT.**

BY ERNEST HART, ESQ.,

Surgeon to the West London Hospital, and North London Ophthalmic Infirmary; late Demonstrator at St. George's Hospital School.

(Communicated by ALEXANDER SHAW, Esq., Treasurer.)

Mr. Hart had brought the case under the notice of the Fellows of the Royal Medical and Chirurgical Society, under the impression that they might be interested in the successful treatment of so formidable a disease as popliteal aneurism by the simple flexion of the knee-joint.

J. S.—, aged forty-one years, consulted him in September, 1858, having a popliteal aneurism in the right ham. It was globular, of the size of a small apple, and situated at the lower and outer part of the popliteal space. It had a full beat, but was not very near the surface. Placing the patient on the sofa, and baring the leg in order to make a careful examination of the tumor, Mr. Hart found that its pulsation was affected by the angle at which the leg was bent upon the thigh, and that when very complete flexion was effected, its thrill almost wholly ceased. Concluding that in this position the course of the blood through the tumor was greatly retarded, he conceived the hope of effecting the cure of the aneurism by the deposition of active clots, if the leg could be retained for a sufficient length of time in the bent position. After a week's preliminary rest, treatment was commenced by bandaging the leg

from the foot to the knee (not covering the tumor), thoroughly flexing the leg on the thigh, and retaining it in that position by the application of a stout roller. He was a thin, wiry man, and the flexion produced no inconvenience to him at the time. He passed a better night than during the previous week, when severe pain had been present in the aneurismal sac. What pain or annoyance was complained of during the treatment was referred to the knee-cap, but it was very trifling, and "barely deserving to be called pain." The tumor was examined on the morning of the third day (about forty hours after flexion was enforced), and considerable solidification had occurred. On the fifth day, the tumor was hard and solid, and neither pulsation nor thrill could be detected. The leg was lightly attached to the thigh at a right angle. On the seventh day, the patient was allowed to move about, the foot being slung. On the twelfth day, the leg was completely straightened, and the patient walked on it with ease, limping from stiffness at the knee-joint consequent upon confinement. Six weeks subsequently, the tumor was hard and firm, and much smaller. After three months, it was barely perceptible, and there was pulsation in that part of the artery. The patient was seen at various stages by the author's friends, Mr. White Cooper, Mr. Coulson, Mr. Holmes, of St. George's Hospital, Mr. Flower, of Middlesex Hospital, and Mr. Buxton Shillitoe.

The treatment by flexion in this case was perfectly and immediately successful. It was unattended with any difficulties, it offered no inconveniences, and was not followed by any other than satisfactory results. The case, however, was one particularly well suited for the essay of such a plan of treatment. The patient was not stout, which renders flexion difficult; nor was he aged, which makes it painful. The tumor was of average size and of average prominence; when the knee was bent, the aneurismal sac was below the line of flexure. These he believed to be all favorable circumstances. Cure was evidently effected in this method by the retardation of the current of blood, and consequent deposition of active clots in the sac—the only manner in which satisfactory cures could be anticipated. This result was probably effected by the combined influences of pressure on the sac by the surrounding fascial and muscular tissues, and acute flexion of the artery. In so far as it was due to pressure, it appeared to be a return to the old method of treatment by direct pressure, but was free from the inconveniences of the screw and pad, which were open to the reproach of occasioning gangrene of the skin, rupture of the sac, and other accidents. Its simplicity and its success in this case appeared to strongly recommend it for further trial. If it were not always successful, there was not any other method free from the same objection; and there seemed reason to hope that the principle might admit of efficient appli-



cation to a number of cases in which aneurismal tumors were developed opposite to the joints of the limbs.

REPORT OF A CASE OF POPLITEAL ANEURISM SUCCESSFULLY TREATED BY CONTINUED FLEXION OF THE KNEE-JOINT.

BY ALEXANDER SHAW ESQ,  
Surgeon to the Middlesex Hospital, &c.,

This communication consists of the narrative of a case of popliteal aneurism, cured by continued flexion of the knee-joint, according to the method described in the preceding paper by Mr. Hart.

The patient, aged thirty, first perceived a pulsating tumor in the left ham a week before his admission into the Middlesex Hospital. It was of the size of a lemon, occupied the centre of the popliteal space; was easily compressed; the pulsation was strong, and there were other signs of its being a recent aneurism. On December 1st, the knee was secured in the bent position by a band brought round the foot and thigh, and fixed near the hip. The immediate effect of the flexion was that the patient ceased to feel the beating of the tumor, and that on inserting the oiled finger into the flexure behind the knee no pulsation could be discerned. On the fourth day, when the limb was unbound, the tumor was found to have lost about a third of its original size; its walls were thicker and denser, the force of the pulsation was considerably diminished, and the sac had receded more deeply into the popliteal cavity. Gradual improvement continued to take place. Between the third and fourth week from the commencement of the treatment the sac had become greatly reduced in size; its walls appeared nearly solid, and the pulsation was so faint that it was expected at each day's visit to find it extinct. The treatment was varied by occasionally undoing the strap, which confined the knee, for several hours together; but, owing to the stiffness caused by the long continuance of the flexion, the position of the joint was not much altered by the relaxation. It was not till the thirty-eighth day that the pulsation in the tumor altogether ceased. The sac was at the time about the size of a walnut. The patient gradually recovered the power of extending the joint. On the fiftieth day he could walk with only a slight halt, and on the fifty-sixth day he was discharged. During the first ten days the patient complained of the pain, as well as the irksomeness, of keeping his knee constantly bent; and for a slight swelling of the joint a lead lotion was applied. Afterwards he made light of the inconvenience, and he never at any time asked to have the belt relaxed.

At the close of the case, the author offered a few brief remarks on the principle on which the cure was effected, and, in illustration, added the observation that, by extreme flexion of the knee-joint of a sound limb, the force of the current of blood through the popliteal artery can be weak-

ened to such a degree as to cause stoppage of pulsation in the tibial arteries.

Mr. Fergusson eulogized the papers read, and said he regarded the proceeding described by Mr. Hart as a valuable addition to the practice of surgery. He spoke of the value of pressure generally in the treatment of aneurism, and also of "manipulation"—modes of treatment which he thought would set aside, in many instances, the necessity for the knife. In the plan pursued in the cases before the Society, there might be failures, but this was no reason why we should discard the operation, but should rather encourage us to persevere to determine the real value of the proceeding. The plan was not altogether novel, for it had been tried three or four years since in King's College Hospital. One of his house-surgeons had ascertained, in a case of popliteal aneurism, that when the leg was flexed upon the thigh, the pulsation of the tumor ceased. The aneurism was of the size of the fist, and was treated by pressure in the groin, and by flexure of the leg upon the thigh. This was persevered in for some time, but without benefit. The man, being impatient of treatment, left the hospital, and died of some other disease. To show the influence of position in certain cases of aneurism, he related a case of that disease in the popliteal space, in which the employment of pressure gave encouraging, but tardy, results. It was found in this case that on extending the leg to its full degree, after the employment of pressure, all pulsation in the tumor ceased.

Mr. Birkett briefly referred to three cases of aneurism treated by pressure which had come under his notice in Guy's Hospital. In one case, ordinary pressure in the groin was applied; then pressure by flexion. Neither did good, but it must be admitted that they were not fairly tried. The femoral artery was afterwards tied, and the patient recovered. In the second case ordinary pressure was applied at first with success: but suddenly the tumor became much enlarged, the femoral was tied, and the patient did well. In the third case, the patient, a man, had an aneurism in the right popliteal space. Pressure was tried, and in fourteen days he appeared well. The tumor contracted, and felt like a small hard ball. Flexion was then resorted to, but not persevered in, and ordinary pressure was again employed. The aneurism, however, gave way, and the femoral had to be tied. The man subsequently had a small aneurism in the left popliteal space; he would not submit to flexion, so the femoral vessel was secured.

Mr. Savory said that these cases were especially interesting and instructive in their relation to the physiology of the blood-vessels. It was familiarly known that a transverse wound of an artery gaped widely, and that when an artery was completely divided the ends retracted. Yet these important facts had seldom received more than a passing notice: They had never



been explained. To what was this retraction due? The muscular tissue was in no way concerned in it, for it occurred at a long period after death, as well as during life. Neither would elasticity alone explain it. Another condition was required, and that was tension. The arteries were elastic tubes, always tense; so that, when divided, by no management of posture or position could the retracted ends be brought into apposition. The extent of the retraction was a measure, then, not of their elasticity, but of their tension. This constant state of tension was obviously connected with their purpose; by it their patency, under every variety of movement and position, was secured. But this rule had its exceptions, and these were to be found at the knee and elbow joints. At these parts, when an artery was divided, extreme flexion would bring their ends into apposition; but in this position, and for this very reason, the course of the vessel was interrupted; the course of the blood through it was impeded; the pulse ceased in the limb beyond. Thus he conceived was explained the principles upon which the cure of aneurism by this means was accomplished. It was not due to pressure in the sense in which that term had been employed. It was due to the fact that the circulation through the artery at a short distance on the distal side of the sac was arrested; so that, as far as the principle was concerned, it would probably succeed, whatever part of the popliteal space the aneurism occupied. Now, in connexion with this interesting fact—the arrest of the current through the artery by extreme flexion of the limb—Mr. Nunn, in some observations on the arrangement of the arteries of the limbs, recently published, has alluded to the remarkably free anastomoses which existed around these joints. They were clearly for the purpose, as he said, of compensating for the occasional interruption through the main channel. He (Mr. Savory) added, this plan of treatment appeared free from one grave objection to the ordinary treatment by compression—namely, of interfering with venous circulation. For although in extreme flexion the current through the main vein was interrupted also, yet here there was also an abundant superficial venous anastomosis around. The veins, like the arteries, were elastic, and, to say the least, were equally tense.

Mr. Shaw had not heard of Mr. Fergusson's case. Perhaps the reason why his own case and that of Mr. Hart did so well, consisted in the fact that both the subjects of them were young. What were the ages of Mr. Fergusson's and Mr. Hilton's patients?

Mr. FERGUSSON.—My patient was sixty.

Mr. BIRKETT.—Mine young.

Mr. SHAW said that Mr. Moore had also treated a case by flexion, but the plan in this instance did not succeed, owing probably to the patient being an elderly man, and the tumor of unusually large size.

AN ACCOUNT OF THREE CASES OF ANEURISM OF, OR WITHIN, THE ORBIT, TREATED BY LIGATURE OF THE COMMON CAROTID ARTERY; WITH OBSERVATIONS.

BY THOMAS NUNNELEY, ESQ., F.R.C.S.,  
Senior Surgeon of the Leeds Eye and Ear Infirmary.

AFTER mentioning the rarity of the affection, the author alluded to those few cases which have been recorded, of which four have been brought before the Society, and are published in its "Transactions." Two of those cases were, not only the earliest, but amongst the most interesting that have been related, and for a great number of years they stood alone. They are those of Mr. Travers, in the 2nd vol., and of Mr. Dalrymple in the 6th vol. Many years afterwards Mr. Busk reported a case of his own, and also mentioned another treated by Mr. Scott, in the 22nd vol. Two cases occurred in Paris in 1839; one to Velpeau, and another to Jobert. Mr. H. Walton has published a case of an infant, in which he operated; and three instances have occurred in America, where Dr. VanBuren operated in a case of traumatic aneurism in the orbit, in a young man who had also symptoms of fracture of the base of the skull; and Drs. V. Mott and T. R. Wood have each tied the carotid for the cure of integumentary nævus, extending into the orbit. There are also three other cases, of doubtful nature, mentioned by Dupuytren, Schmidt, and Frere, one of which, however, if not more, is quite as likely to have been malignant disease as aneurism. As three cases have lately come under the author's observation, in all of which the common carotid artery has been tied, he has thought them not unworthy of being brought under the notice of the Society. Since Mr. Travers first declared the disease to be aneurism by anastomosis, it has commonly been so regarded; but from this opinion the author dissents, for the reason given at the conclusion of the paper.

The first case occurred in a healthy man, aged thirty-one years. The early history and origin of the complaint were at first very obscure, made purposely so by the patient to conceal the true cause of it—a hard blow upon the left eye in a drunken midnight fight. At first there was some protrusion of the ball, congestion of the conjunctiva, and dulness of vision, but no pulsation. It was suspected that a chronic abscess or serous cyst might be forming deep in the orbit. The eyelids gradually became much congested, swollen and lobulated, as thought about to burst. A minute puncture, followed by considerable effusion, clearly showed the distension to be caused by blood. Subsequently aneurismal thrill and pulsation were detected. As pressure on the carotid at once arrested these, and allowed the protrusion and vascularity of the eyeball to subside, the artery was tied, with the effect of immediately removing some, and materially diminishing, all the symptoms. The brain was unaffected on tightening the ligature. The patient progressed most favorably until the twenty-

fourth day after the operation, when, without any assignable cause, the symptoms somewhat returned, but were soon checked by venesection and purgation. In a month he had returned to his work, the ligature been still fast on the artery. After continuing at it for the space of three weeks, suddenly, without, as he then said, any known cause, during the night, the injection, protrusion, and pulsation in the eye returned to such a degree as to render necessary consideration what further should be done. The propriety of extirpation of the contents of the orbit; the ignition, by a battery, of wires passed into the orbit; the introduction of threads of wire coated with nitrate of silver or sulphate of copper; the injection of perchloride of iron or tannin; and the ligature of the other carotid, were discussed, and the latter plan determined upon, if depletants did not succeed. Repeated venesection, purgatives, low diet, cold to the orbit, and upright position, were rigorously adopted and with the best effect. The symptoms all subsided, when, before the case could be said to be complete, the man was put into gaol, and was subsequently lost sight of for some weeks. He then worked hard as an excavator and housebreaker, for which he was sentenced to penal servitude. When seen, during the last month, in Wakefield Prison, it was found that the sight of the eye was lost, but in every other respect he was perfectly well. He then voluntarily stated that he had only himself to blame for the recurrence of the symptoms, as on the first occasion he clandestinely left the house on a very cold day, walked some distance, and ate and drank freely; and on the second occasion he had been out all night poaching. The ligature did not come away until ninety-six days after the operation.

In the second case, that of a man aged thirty-eight, the affection came on without any assignable cause. It had existed many months. The operation was perfectly successful, and he returned to his work, as a weaver, in a month after it. In him also, while wheeling a barrow, there was a sudden renewal of some of the symptoms, which, however, a few day's rest removed; and when seen twelve months after the operation, the eye was perfect, a little boggy, the lids being the only vestige of the affection.

In the third case of a woman aged sixty-five, the disease came on "suddenly, as the crack of a gun," while she was stooping to take of her shoes. It was attended with more pain and more active symptoms than in the other two; the pain in the head and eye was most distressing. The operation was a difficult one. The neck was short and thick; there was a large bronchocele, with many congested veins, and the carotid divided unusually low in the neck. There was some hæmorrhage from an unseen vessel. The brain was seriously affected on the tightening of the ligature. There was convulsion of the same side of the body, and partial paralysis of the opposite side; the local

symptoms, however, disappeared instantly. She sank on the sixteenth day after the operation, having had repeated losses of blood from the wound. There had been paralysis, more or less complete, of the right side of the body, with constant partially controllable movements of the left side, difficulty of speech, and some impairment of intellect. On examination of the body forty-eight hours after death, the external appearance of both eyes was the same. The brain was very pale, containing very little blood; but, so far as could be judged, the same on both sides. There were no signs of recent inflammation or effusion, but there was old general thickening of the arachnoid membrane. The right hemisphere of the brain was of a natural firmness; the left was soft, and in the lower part of the middle globe, just above the entrance of the carotid artery into the aneurism, was a patch as large as a hazel-nut, quite broken down. The carotid artery, on its emergence from the bony canal, was enlarged, and surrounded with a small coagulum, which involved the origin of the ophthalmic branch. The latter vessel was enlarged, and its coats diseased, as were its continuation to the inner side of the orbit, and the lachrymal branch: these were filled with coagulum. All its other branches were so small as hardly to be seen. There was nothing like aneurism by anastomosis in the orbit. All the cranial arteries were very patulous, and studded with atheromatous and earthy deposits. The ligature had been securely placed upon the carotid, but somewhat near its bifurcation; below, the vessel was well filled with coagulum, and the sheath, as low as the sternum, consolidated with fibrin; but above the ligature the vessel and all its branches were quite open, there being neither coagulum nor fibrin. The bronchocele extended nearly to the sternum. The parts were placed upon the table, and also drawings of the appearance of the eyes, just previous to the operation, in all the three cases.

The author then commented upon the nature of the affection, stating the points in which, in its origin, progress, symptoms, and treatment, it differs from aneurism by anastomosis, and expressed his conviction that it is an error to so call it; that in reality it may be true aneurism, or false, circumscribed, or diffused aneurism, either within the orbit or of the carotid within the cranium, near to the origin of the ophthalmic branch. It was remarked that all these cases occurred on the left side, and that amongst those reported which had arisen spontaneously, the majority were on the left side and in women; whilst those who supervened upon local violence were, as might be expected, most common in men, and on either side. The cases were however, too few to justify more than the calling attention to the fact, which may be only accidental, and be reversed on examination of a great number.

Mr. Curling considered the cases described by the author should not be denominated aneu-

risms, but pulsating tumors in the orbit. In some cases it might happen that there was aneurism by anastomosis, and afterwards a changed condition of the bloodvessels, giving rise to a pulsating tumor, as well as true aneurism of the ophthalmic artery. Such a change requiring operation might take place, not only in early life, but in adult age. In referring to the recorded cases, the author had overlooked a paper by himself (Mr. Curling) in the thirty-seventh volume of the "Transactions," where he related a case in which he had tied the carotid artery for a pulsating tumor in the orbit. It was described as "traumatic aneurism of the ophthalmic artery."

Mr. Hulke related a case which came under the care of Mr. Bowman last year. All the capital signs of orbit aneurism were present. The common carotid artery was tied; death ensued; and at the autopsy no aneurism could be found. The patient was a woman, forty years old, of intemperate habits; in a scuffle, she received a blow on the left temple, which stunned her, and she fell. Next day she had severe pain in the left temple, which she referred to a spot one inch above, and in front of, the ear. This lasted a fortnight, and was then replaced by a rushing noise like the constant beating of an engine. Four months afterwards her sight was troubled when she looked at anything with both eyes, but with either eye singly there was no confusion of vision. A fortnight later the eye became red and prominent; this frightened her and she applied at the Royal London Ophthalmic Hospital. A loud sibilant bruit was heard over the left temple and eye; and when the stethoscope was placed upon the eye itself, it was perceptibly upheaved by a strong pulsation, which was synchronous with the heart's action. The bruit and the pulsation were at once stopped by compressing the carotid artery. As the symptoms were increasing, the common carotid artery was tied. The patient progressed favorably for several days; then the wound became phagedenic: secondary hæmorrhage ensued, and recurred several times after the separation of the ligature; and she sank about three weeks after the operation. At the autopsy, no aneurism or erectile tissue was discovered. The internal carotid artery and its cerebral and ophthalmic branches were carefully traced, and were found quite natural. The ophthalmic vein had a varicose appearance, and seemed larger than natural; but on comparing it with the vein on the opposite side, the enlargement was found to be due to thickening of its walls, and not to increase of its calibre. It was filled by a clot, which was more recent in the branches than in the trunk. The cavernous, circular, transverse, and the petrosal sinuses on the left side contained clots. In the cavernous sinus this was a puriform pulp. A close examination showed that it was not pus, but softened blood-clot. The dura mater covering the sella turcica, the left post-clinoid process, and the sinuses, were congested, and coated with

a tenacious film of lymph, which contained bloody points but no vessels. The internal carotid artery and other structures in relation with the cavernous sinus were bathed in an ichorous serum; the tip of the petrous portion of the temporal bone had a brownish color, and its vascular foramina were enlarged, but the bone was not soft nor carious. The carotid canal was laid open, but no obvious changes were noticed. The pathological changes were inadequate to explain the symptoms which were present in so marked a degree during life; and a case of this kind, Mr. Hulke observed, threw considerable doubt on the reality of some of the cases which have been placed on record.

Mr. France related the case of a woman who had the point of an umbrella thrust into the orbit, producing great swelling, tumefaction, and protrusion of the globe. The pulsations were synchronous with the heart, and an aneurismal bruit was audible. He and his colleagues not being anxious to have recourse to operative treatment, the disease remaining stationary, the patient was kept tranquil, and cold was applied to the part. In a short time the swelling subsided, the pulsation ceased, and the woman returned home comparatively well. In another case, not of so severe a character, but presenting similar symptoms, the patient recovered without any operation. His own opinion was, that unless the disease was distinctly on the increase, so formidable an operation as tying the carotid ought not to be resorted to.

Mr. Curling remarked, that the operation was urgently required in Mr. Scott's case. A tremendous hæmorrhage from the nose took place, and the patient was taken at once to the operating room. In his own case, in which operated, the vision was being gradually destroyed, the tumor was increasing, and there was distressing pain in the head, besides other symptoms of enlargement of the aneurism. Of course where the tumor was stationary it might be hoped that a coagulum would form, resulting in a spontaneous cure.

Mr. Nunneley, in his reply, apologized for not having referred to Mr. Curling's case, of which, indeed, he was ignorant. Of course no one would think of tying the carotid in these cases unless there was urgent occasion, or if the disease was stationary, and not involving any immediate serious consequences. In the case in which he tied the artery, the patient's life was one of misery. In the second case the patient was under treatment twenty-eight weeks before coming under his care, and the disease was steadily advancing. The case related by Mr. Hulke was a very interesting one; but he thought there might be some aneurism within the cavernous sinus.

Mr. Hulke replied that the cavernous sinus and the parts connected with it were carefully examined, and no dilatation was observed.

## NORTH LONDON MEDICAL SOCIETY.

Dr. Greenhalgh read a paper upon

## CRANIOTOMY.

Having briefly referred to the moral responsibility incurred in its performance, and pointed out and illustrated the extreme difficulty frequently attendant thereon in cases of extreme distortion of the pelvis, he proceeded to the consideration of the various alternatives proposed, under the following heads—namely, 1st, the induction of abortion; 2nd, artificial premature labor; 3rd, turning; 4th, the Cæsarean section. After dilating upon the advantages and disadvantages of these methods, and having indicated the nature of the several cases and their appropriate treatment, the author contended, by a reference to such limited statistics as he had been able to collect, that there was but little, if any, difference in the mortality to the mothers from craniotomy in great distortion of the pelvis, and the Cæsarean section when performed shortly after the commencement of labor; whereas there was a great saving of foetal life. The author concluded by offering some remarks upon a pelvis (which he exhibited) taken from a patient upon whom he had performed the Cæsarean section, which she survived three weeks.

## OBSTETRICAL SOCIETY OF LONDON.

Dr. Rigby, President.

## CASES OF EXTRA-UTERINE PREGNATION.

Dr. Harley exhibited a specimen of Fallopian-tube pregnancy, complicated with fibrous tumors of the uterus. The preparation was taken from the body of a negress, aged twenty-two, who had died from rupture of the tube at about the fifth month of gestation. The patient was under the care of Dr. Magrath of Jamaica.

Dr. Waller also showed a considerable number of perfectly formed foetal bones, which had passed from the rectum of a female 47 years old. The history was to this effect:—Ten years before the bones were passed, this woman fell in the family-way. At the end of nine months, labor pains set in, a sanguineous discharge followed, and then all symptoms of labor passed away. A month afterwards menstruation was established, and continued regular for ten years. The catamenia then became irregular, her health failed, and she had difficulty in the passage of the motions. Foetal bones were then found to come away with the latter; and when all seemed to have been passed, the general health was restored.

A discussion followed, in which Dr. Tyler Smith, Dr. Granville, Dr. Rigby, Dr. Gibb, Dr. Harley, and Dr. Routh took part.

## DESCRIPTION OF AN ANENCEPHALIAN MONSTER.

By R. U. West, M. D.

The woman who gave birth to this monster (which was exhibited to the Fellows) had previously had a large family of healthy, well-developed children. On the present occasion there was a very large quantity of liquor amnii, after the discharge of which, what was thought to be the head of the foetus was felt low down in the vagina. A hand and arm also kept coming down, though they were pushed back again and again. Feeling convinced that the infant was dead, Dr. West bored a hole in the presenting part, introduced his forefinger into the opening thus made, and pulled the foetus away. There was an enormous placenta. The monster proved to be a perfect specimen of Geoffroy St. Hilaire's rare genus "Déréncéphale."

## ABORTION WITH ALBUMINURIA AND CONVULSIONS, IN SIX SUCCESSIVE PREGNANCIES.

UNDER THE CARE OF DR. TYLER SMITH, AT ST. MARY'S HOSPITAL.

(Reported by W. H. Broadbent, M. B.)

This case furnishes a remarkable instance of the puerperal convulsions with albuminuria in successive pregnancies. There can be little doubt that the cause of the convulsions was the same in all the pregnancies. It also seems evident that it was not organic renal disease which stood in the relation of cause to the convulsions and abortions, since while she was under observation, albumen only appeared in the urine when pregnancy had reached a certain stage, and disappeared within a fortnight of the expulsion of the ovum. It is further evident from this case, as from others observed by Dr. Tyler Smith, that the albuminuria is not to be accounted for by any mechanical interference with the renal circulation by the gravid uterus. Albumen appeared in the urine at a period of gestation when the uterus was by far too small to exert pressure on the kidneys. The renal congestion, which no doubt was the proximate cause of the albuminuria, depends, in the opinion of Dr. Tyler Smith, on reflex irritation of the kidneys by the gravid uterus; and resembles the congestion of the mammae, salivary glands, and other organs in reflex sympathy with this organ.

## REPORTS OF CASES OF POLYPUS OF THE UTERUS, WITH CLINICAL OBSERVATIONS.

By FRANCIS ELKINGTON, M. D., ETC.,

Lecturer on Midwifery and the Diseases of Women at the Sydenham College, Birmingham.

In this paper, Dr. Elkington records the full histories of six cases of large uterine polypi, which are chiefly remarkable for the size of the tumors and the difficulties which were generally experienced in effecting their removal.

The first case occurred in April, 1849. A ligature was applied by means of Gooch's canula, and at the end of five days the neck of the poly-

pus was cut through. The lady afterwards became pregnant, and did well.

The second example was under treatment at the same time. On making a vaginal examination, a large fleshy tumor was found completely filling the vagina, the os uteri being situated high up, and tightly embracing the mass. An obstetric physician of some repute had diagnosed *inversio uteri*, and recommended that an attempt should be made at reduction. Dr. Elkington, finding the uterus in its normal position by means of the uterine sound, detected the true character of the disease, and in consequence applied a ligature, which cut through the tumor at the end of fourteen days. She gradually regained her health, and afterwards became pregnant.

The third history was that of a woman suffering from chronic inversion of the uterus, which had been mistaken for polypus. She was pale and anæmic, forty-seven years of age, and her only labor had occurred twenty-six years previously, and had been severe with adherent placenta. At various times she had been much weakened by severe attacks of flooding, which at first recurred about every fortnight, but subsequently once a month. She also experienced at times much pain in the abdomen, accompanied with nausea and vomiting, so that she has never known good health since her confinement. On examination a pear-shaped tumor was found protruding through the os uteri, and occupying the upper part of the vagina; it was tender to the touch, had the appearance of the inner surface of the uterus, and the sound could not be passed between the tumor and the cervix. It seemed evident that the case was one of chronic inversion of the uterus; but as this condition had existed so many years, it was deemed unadvisable to make any attempts at reduction, and consequently only palliative treatment was adopted. By the latter, the general health was improved, the discharges lessened, and the suffering much diminished.

The author's fourth example was under his care in January, 1846. She was the mother of twelve children, and had aborted in 1844, when in her forty-ninth year. Had never been well since, and had been weakened by several attacks of flooding. On examination, the uterus was found enlarged and tender, with the os uteri small. Leeches were applied, which relieved the tenderness; but the discharge, sometimes muco-purulent, sometimes sanguineous continued. She remained very ill and feeble for many months, but no part of the tumor passed through the os uteri until the 11th of March, 1847. On the following morning, a ligature was applied round the base of the tumor: a large part of the latter coming away in seven days, and in eight days more the ligature, with another portion of the growth. Health and strength were slowly regained, but in July the patient was well, and was seen in good health two years afterwards.

The patient in the fifth case consulted Dr. Elkington in Sept. 1839, at which time she was out of health, and was "unwell" too often. No enlargement of the uterus could then be detected, nor was any discovered until Christmas of the same year, when it was thought that a fibrous tumor or polypus existed in the uterine cavity. There was little change for some months, except that the uterus gradually increased in size; but about April, 1840, the os opened, and allowed the tumor to pass into the vagina. In July, a ligature was passed around the upper portion of the polypus, which came away on the eleventh day, with a portion of the growth weighing sixteen ounces. It was clear, however, that a large part of the tumor still remained in utero, which in time descended into the vagina, so that a second ligature was used in September, 1840. By this means twenty ounces of the mass were got away, but the removal was followed by very severe phlebitis. Ultimately she got much better, and continued well for twelve months, at the end of which time the flooding began to return, and in two years she was as large as a woman at the seventh or eighth month of pregnancy. In December, 1842, there was some decomposition of the tumor, the discharge from which was most offensive. The mass gradually descended into the vagina, and on February 6th, 1843, a ligature was applied for the third time. Pieces of the decomposed tumor came away with the whipcord on the 19th of February, but the uterus still continued much enlarged. In December, 1843, her health began to break down, but she partially improved, and in February, 1844, was stronger, though the uterus was very much enlarged. At various subsequent periods, parts of the mass sloughed, and were expelled; until, in March, 1846, another ligature was applied, which in a few days brought away one pound and a quarter of the growth. From this date she again improved, but remained very large, until May, 1847, when another portion was taken away by ligature. In the early part of 1849, she got permanently worse, and in May she died. Unfortunately, no post-mortem examination could be obtained.

The last case was seen in April, 1856. In this instance, there was a large polypoid growth which was removed by ligature; but it grew again, so that in March, 1858, a second ligature was required. The lady, however, died from exhaustion before the tumor came away.

Dr. Rigby thought the thanks of the Society were justly due to the author for his very valuable paper. The cases detailed were such as give rise to great anxiety in their treatment. He had had a patient under his care whose history partly resembled Dr. Elkington's fifth case, and from whom he had removed upwards of forty pounds' weight of tissue at different operations with a ligature.

Dr. Waller had also had a similar case under his care at St. Thomas's Hospital. He showed the instrument which he generally used for ap-

plying the ligature, and which consisted of Gooch's canula slightly modified.

Dr. Routh feared that he might be deemed guilty of some presumption in criticizing Dr. Elkington's paper; but still he felt it right to state that, in his opinion, the plan of treatment adopted had not been so good as he had frequently seen practised by continental surgeons. He thought that in most instances of polypus uteri the tumor might be cut off without any fear of hæmorrhage,—a proceeding which was far preferable to the ligature, since by it all risk of purulent absorption was avoided. Supposing, however, that the practitioner was in dread of much bleeding, he might safely employ the *écraseur*; the wire or chain of which could even be passed round the tumor while it was still in utero.

Dr. Tyler Smith did not consider that any blame attached to Dr. Elkington for the course he had pursued; especially as the cases had occurred before the *écraseur* was resorted to as much as it is now. Moreover, he had found it difficult to apply this instrument, except when the polypus was small. He was in the habit, however, of passing a wire round the tumor by means of Gooch's canula; and then by tightening the wire at once with the aid of a small winch, he could cut off and remove the polypus in a few minutes. Dr. Smith stated also that he had lately seen a patient, with Sir Charles Locock, in whom the tumor was so large that only half of it could be removed at the first operation; and there was still a large mass to get away.

Dr. Murphy had received a great deal of instruction from the paper, though he rather regarded the treatment adopted as belonging to a past age. He thought that most if not all polypi might be drawn down and cut off at once, without any injurious loss of blood. He was generally in the habit of applying a ligature, which was allowed to remain on for twenty-four hours. By the aid of this the tumor was then drawn down to the orifice of the vulva, and the pedicle snipped through with a pair of scissors. By this plan there was not the slightest risk of hæmorrhage; and as there were no offensive discharges, there could be no fear of purulent infection. At the same time he was well aware that many difficult cases were met with in practice where resort could not be had to this measure; in many of which he would recommend dilatation of the os uteri, and then the drawing down of the tumor by means of forceps.

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#### WESTERN MEDICAL AND SURGICAL SOCIETY.

MR. A. B. BARNES, President.

[ Mr. J. R. Lane read a paper

#### ON FISTULA IN ANO.

After a description of his views of the situation and mode of formation of the different kinds of

abscesses which are followed by fistula, he expressed his opinion that it was erroneous to suppose that abscesses in the neighborhood of the anus were all but certain to give rise to this complaint. That the great majority did so was undoubtedly the case; but he thought that if early and free incisions were more generally practised, permanent closure of the cavity, especially in cases of acute abscess, would frequently take place. He had met with cases repeatedly in which he thought a fistula was inevitable, but in which the incision had, nevertheless, healed soundly and rapidly. Of the three varieties of fistula, the complete was the most common; the blind external was next in order of frequency, and the blind internal was the most rare. Of 68 cases upon which he had operated in St. Mark's Hospital during the last nine months, 46 were complete, 20 were blind external, and 2 were blind internal. Sir B. Brodie had maintained that an internal aperture was always to be met with if sought for in the proper situation, and would not therefore admit the existence of an external blind fistula at all. In the 20 cases alluded to, however, no internal communication could be found after the most careful search, not only with the probe, but also by injecting fluid with a small syringe into the sinus, which method would frequently, by the passage of the fluid into the bowel, demonstrate the existence of a communication, even when it could not be discovered with the probe. In operating on these cases an artificial communication had been established either with the bistoury or the director in the usual way, and all had healed soundly and well—a result which would scarcely have taken place had an internal aperture existed, and had he failed to include it in the incision. The position of the internal aperture of a complete fistula was, as now generally understood, almost invariably placed just above the sphincter muscle, although the sinus itself might also extend some distance higher up. The author had only met with three exceptions to this rule, and in these he had found it placed two inches or more within the anal aperture. In the cases in which the internal aperture was in the usual situation, but the sinus extending higher up, he had always found it sufficient to lay open the lower part of the sinus through the internal communication into the rectum, without meddling with the upper part. He thought it advisable, however, in such a case always to have a free incision through the sphincter muscle, in order that there might be a ready outlet for any matter that continued to be secreted. In the exceptional cases, where the communication was placed higher up, it was, of course essential to include it in the incision.

After some further remarks on the operation for fistula and its after treatment, Mr. Lane referred to the association of fistula with phthisis pulmonalis, which he believed had been overestimated. M. Andral's statement, that he had examined 800 persons with phthisis, and only found

one who had fistula, was well known, and the author believed that phthisis, by its debilitating influence, might conduce to abscess and fistula, and, on the other hand, that the drain from the latter might accelerate the development of tubercle in those predisposed to it. Whether an operation for fistula should be performed in phthisical persons, he decided in the affirmative; for in some half a dozen cases of this kind, not only did the wound heal favorably, but a decided improvement in the health of the patient resulted. It had been stated that an indurated condition of the internal aperture was a characteristic of fistula in phthisical persons. He did not believe it to be a sign which could at all be relied on, having seen fistulae with a perfectly smooth condition of both external and internal apertures in persons suffering from phthisis, and also a highly callous condition of those apertures in persons in whom there was no suspicion of pulmonary disease.

# PATHOLOGICAL SOCIETY OF LONDON.

MR. FERGUSSON, President.

Mr. Nunn exhibited

## TWO SPECIMENS OF OVARIAN DISEASE.

The first was an example of compound cystic disease accompanying a very rare form of malformation of the uterus,—namely, the almost complete isolation of the body of the uterus from its cervix; the slight connection that existed being formed by a narrow fibrous band. The body of the uterus was larger (about twice or thrice), and the cervix smaller by about one-third, than normal. The patient from whom the specimen was taken, aged twenty-six, had died after the operation of ovariectomy. She had never menstruated; from the age of ten ovarian tumor had been suspected. The tumor itself was of the compound character, multilocular, the cysts containing fluids of different colors and densities, hair, bone, and cartilaginous material. Perhaps it might be designated by some as cysto-sarcomatous.

The second specimen was from a patient between forty and fifty years of age, who had made a very favorable recovery after ovariectomy. It consisted of a large warty growth the size of three fists, connected with some small cysts, of proliferous kind, of the right ovary, and of similarly compound cystic growths of the left ovary; both were removed at the same operation. The warty growth, in its original state, was of a most delicate pink hue. It was made up of innumerable clustered villous and cystic elements, such as are described in Paget's Lectures, vol. ii., pp. 63 and 511, as constituting the elements of cystic disease of the chorion in the first instance, and of dendritic vegetations in the second. The small cysts also contained warty growths of the same nature; probably, therefore, the large warty mass originated *within* a cyst

which had been ruptured at some stage of the disease. Nevertheless it is to be observed that scattered warty growths were found over the peritoneal surface of some of the cysts and of the Fallopian tubes.

The operation in both cases was performed by Mr. I. B. Brown.

Mr. Henry Thompson presented a specimen of

## SUBCUTANEOUS MALIGNANT TUMOR, CONTAINING MELANOTIC MATTER.

Harriet S—, aged sixty-four, was admitted into the Marylebone Infirmary, under the care of Mr. Henry Thompson, Oct. 1858. For several months previously she had been the subject of small subcutaneous swellings on the lower part of the abdomen, all about the size of peas, except one as large as a walnut, very dark in color, and threatening to burst and bleed. Mr. Thompson removed the large one by two elliptical incisions, and she was discharged in a month, the wound being healed. On the 20th of January, 1859, she was re-admitted with a large tumor nearly in the same situation; the others much increased in size. She was excessively weak and emaciated, and died about three weeks afterwards.

*Post-mortem Examination.*—In the site of the operation there was a tumor, the size of a fist, which now involved the muscles, and reached to the peritonæum. Its contents consisted of pultaceous matter, of a dark slate color. In the iliac glands there were several tumors of a similar character. The liver contained numerous deposits resembling them, as also did the lungs. Under the microscope the pultaceous matter was seen to be made up almost entirely of nucleated cells of ovoid form, regular in size, the most being about  $\frac{1}{2000}$  of an inch in long diameter. The outline of the cell was clearly defined; within were numerous granules, some dark and opaque (pigment?); others highly refracting (oil); also dissolved coloring matter within the cells, especially in those from the deposits in the liver. Free masses of coloring matter also were scattered in the field from deposits in any situation.

Mr. Thompson also exhibited the leg of a man, aged sixty-nine, which he amputated for epithelial disease of the tibia, and in which spontaneous fracture of the tibia and fibula had previously taken place through the action of that disease upon them.

Dr. Wilks exhibited the following specimens:—

## I.—ENLARGEMENT OF THE LYMPHATIC GLANDS AND SPLEEN.

He drew the attention of the Society to this peculiar form of affection, which was not very uncommon, but had never yet received any distinct designation. The first notice of it was to be met with it in the seventeenth volume of the "Transactions of the Medico-Chirurgical Society," where numerous cases of it are related by



Dr. Hodgkin; and in a paper by himself in the "Guy's Hospital Reports" some other instances were recorded. The disease is manifested by an immense enlargement of all the lymphatic glands, especially those in the mediastina and lumbar region, but very often including those in the groin and neck; and at the same time the spleen is much enlarged, and contains some white deposit. These glands when cut are uniform in structure, translucent, and tough, and consist of a combination of an albuminous or lardaceous matter, with a fibroid tissue; and the same in the spleen. The other organs may sometimes contain a small amount of the same deposit. The symptoms attending the disease are extreme anemia and dropsy, death occurring from exhaustion. In some cases, tubercle has been present; and, in others, the organs have been lardaceous or waxy, showing its close affinity to these two other morbid conditions.

The present specimens came from a lad aged eighteen, who died in Guy's Hospital, under Dr. Pavy's care, with the above named symptoms—dropsy, extreme anemia, and great enlargement of the glands in the neck; and, after death, the glands also in the mediastinum and abdomen were found similarly affected; the spleen was of great size, and had scattered through it a number of white deposits. The structure of the glands was almost entirely nucleated fibre, as was also the composition of the material in the spleen. The liver and kidneys, on microscopic examination, also showed a small quantity of the same nucleated fibre in various parts of the tissue.

#### II.—CYSTIC DISEASE OF THE SPLEEN.

This very rare disease was found associated with a similar cystic disease of the kidneys, and the interest of the specimen was in relation to the general question of formation of cysts; wherever, for example, as in the kidney, liver, &c., ducts exist, naturally two opinions are held respecting them: the one, that they are independent formations; and the other, that they are formed from the ducts of the part. In the present specimen such a theory as the latter is excluded.

#### III.—RUPTURED ANEURISM OF THE HEART.

The specimen was sent by Mr. Comley, of Whitechapel, who was called to make a post-mortem examination of a child, twelve years of age, who suddenly fell dead. The cause was found to be a ruptured left ventricle, owing to a large cyst contained in its walls which had burst. The latter projected inwardly, but not outwardly, and communicated with the ventricle by a small opening. It was lined by a membrane continuous with the endocardium, and the blood had evidently, for a long time, freely circulated through it. There were no signs of old inflammation or other disease within the heart.

## A Mirror OF THE PRACTICE OF MEDICINE AND SURGERY. IN THE HOSPITALS OF LONDON.

*Nulla est alia pro certo noscendi via, nisi quam plurimas et morborum et dissectionum historias, tam aliorum proprias, collectas habere et inter se comparare.*—MORGAGNI. *De Sed. et Caus. Morb.*, lib. 4. Proœmium.

### KING'S COLLEGE HOSPITAL.

#### *Case of serious bronchocele treated by puncture.* (Under the care of Mr. FERGUSON.)

THE cystic variety of bronchocele is interesting from its rarity, as compared with the solid and uniform enlargement of the thyroid body itself. The development of cysts, again, in this body are still more common than what are known as pulsating bronchoceles, the latter oftentimes proving difficult to diagnose. A young woman was recently admitted into King's College Hospital with a considerable enlargement of the thyroid gland, but mainly depending upon the presence of a cyst, which had been progressing for the last fifteen years, but which had latterly been productive of so much inconvenience as to induce her to seek some new mode of relief. The growth was prominent and well defined, and extended on either side of the neck; it was soft and fluctuating, and contained fluid evidently within a cyst. Mr. Ferguson determined to puncture the sack, let out the contents, partly stuff it with lint, and allow a cure to be effected by suppuration. Chloroform was given on the 21st instant, and when she was unconscious, the skin was divided to the extent of an inch over the left side of the tumor; some muscular fibres were cut through, then a stratum of the thyroid body, and finally the cyst, with a probe pointed bistoury, when out gushed a considerable quantity of dirty, brown-colored, serous fluid, followed afterwards by free sanguineous oozing. The cyst was partly stuffed with lint, several compresses of the same material were placed over it and a light bandage applied. After the evacuation of the sac the patient vomited, and became conscious before the dressings were complete.

In some remarks made afterwards, Mr. Ferguson stated that some years back many surgeons would have contemplated the removal of such a tumor—an undertaking which is hardly likely to be entertained by surgeons of the present day. When, however, there is a cyst slowly enlarging, as in this patient, it is the duty of the surgeon to do something to close it up. He had seen instances in which he thought he might remove the sac by dissection, but it could not be accomplished. He recollected one, in a lady, which seemed isolated, and favorable for complete removal; but after making a few incisions he soon perceived it could not be attempted, the



bleeding was so free; he therefore opened the cyst, let out the fluid, and stuffed it with lint to produce suppuration, and a good recovery ensued. The sac in that instance was close to the carotid artery, and he felt anxious during the period of sloughing lest it should open into that vessel.

The present proceeding Mr. Fergusson believed to be the safest for the patient. Iodine injection he looked upon as of questionable utility, for the reason that the interior of the cyst takes to bleeding, and the blood itself is apt to prove a source of mischief. He had met with a case of the kind within the last eight months, in which the patient was left with a tumor on the neck much larger than it was before, depending upon the presence of fibrous coagula. Free incisions were necessary, partial sloughing followed, and she ultimately recovered.

In the patient submitted to operation this day week, there continued a general oozing from the interior of the cyst, even after it had been stuffed with lint. The result of the case shall be given on a future occasion.

#### GUY'S HOSPITAL.

##### *Elephantiasis gracorum, or lepra anæsthetica,* (Under the care of Dr. WILKS.)

The above name is given to the present case in accordance with the division made by Danielssen and Boeck into *Lepra tuberculosa* and *anæsthetica*, and who follow the French in transferring ordinary lepra to psoriasis, and the term "elephantiasis" to Barbadoes leg. The case strongly contrasts with the fellow one (the tuberculosa) now in the hospital, as there was very little swelling or disfigurement, the skin being affected by patches of discoloration; these were destitute of feeling, the adventitious matter (whatever it may be) being exuded, according to the above-named authors, along the course of the nerves rather than in forming protuberances in the skin, and thus causing anæsthesia and subsequent wasting of the limbs; whence the name "joint-evil," given to it in the West Indies.

Edward G——, aged twenty-four, a respectable young man, employed as a Government clerk at Trinidad, was admitted under Dr. Wilks's care on the 9th February last. He stated that, ten years before, he had ague, followed by abscesses on his body; and that on recovering he experienced uneasy sensations and numbness in his left arm, and subsequently in other parts; at the same time, the limbs being somewhat swollen and painful, he was thought to be suffering from rheumatism. Of these symptoms he got better, when in 1850 it was clear that he had been attacked with elephantiasis; he was beginning to lose sensation in his arm, which was also discolored, and subsequently other limbs became affected in like manner. About a year and a half ago, all these symptoms

were aggravated, and then the nose and ears became swollen.

On admission he was very weak, although able to walk about; there was no alteration in the face, except the nose being swollen and of a purplish color: the chest had a brown patch on it as if painted with iodine, and over this all sensation was lost; the gluteal region was in the same condition; nearly the whole of the left leg was discolored and anæsthetic, the right partially so, and the forearms in the same state; the hands and feet were swollen, of a livid color, and scaling on the surface. He was anxious to try a remedy which he heard was in use in Paris, called *hydrocotyle*; but while inquiries were being made about it, he left the hospital, having had an offer made him of a return to his own country.

##### *Lepra tuberculosa (leontiasis of the ancients), with partial anæsthesia.*

(Under the care of Dr. GULL.)

An example of the other form of elephantiasis, included in the division of Danielssen and Boeck, we are enabled also to record, through the kindness of Mr. R. Innes Nisbett, clinical clerk, who has carefully reported it. It is very rare that the student has the opportunity afforded him in this country of witnessing the two varieties of this remarkable disease. The hideous and terrible expression given to the physiognomy of the patient, who is the subject of the following case, the result of the tubercular swelling of the forehead, eyebrows, lids, cheeks, *alæ nasi*, and lips, together with the gradations which it goes through, gave rise to the name of leontiasis amongst the ancients, which very graphically expresses the appearance of the patient.

John H——, aged forty-two years, a native of Kingston, Jamaica, of European parents, was admitted into Job ward on May 3rd, 1858. He has been engaged during the last twenty-six years as a blacksmith in the navy, living on board ship, and principally on tropical stations. During the whole time he enjoyed robust health, and has had no disease except syphilis (which he contracted several years ago in the West Indies, but from which he states he soon recovered under medical treatment) until the commencement of his present malady. He says that he has never been a drunkard, but has always been much addicted to venery. His present symptoms commenced about sixteen months previous to his admission into this hospital; first by oedema of the lower extremities, followed by an eruption of small red tubercles or lumps, which very soon began to ulcerate in various places. He continued in this state for several months, the ulcers healing in some places, and breaking out afresh in others; this was succeeded by a severe attack of erysipelas of the head and face, following a scalp wound: from this he recovered in about three weeks, after which the tuber-

ocular eruption broke out afresh, and in a much more aggravated form, affecting the whole body, with the exception of the scalp. The tubercles he describes as hard lumps under the skin, varying in size from the bulk of a small pea to that of half a walnut, the larger being on the trunk, the smaller on the face and extremities; they were of the same red color as at first, but this time they were attended with such excessive itching and uneasiness that he was compelled to give up work on board ship. (He was then on the Mediterranean station.) He was sent to England, and was admitted into the *Dreadnought* Hospital, where he had another attack of erysipelas, on the subsidence of which the whole of the tubercles disappeared, leaving the skin in some places of a dark-reddish, and in others of a tawny-brown color. He continued free from the tubercular eruption for two months, at the end of which he had erysipelas a third time; his legs again became affected as at the first—viz., with an eruption of tubercles quickly proceeding to ulceration. Hitherto his general health during the intervals of these attacks had been comparatively good; but now his appetite became disordered, sometimes failing, at other times quite voracious. His nose and lips began to swell, and feel excessively itchy and painful: this was quickly succeeded by giddiness and confusion of ideas, which so increased that on the Saturday previous to his admission into this hospital he became quite outrageous, and continued in a state of wild delirium for two days, during which he had to be tied down to his bed. The paroxysm gradually subsided; but he still remained giddy and confused, and haunted by ocular spectra, especially during the night.

*Condition on admission.*—He has a singularly bloated, harsh, and uncouth visage, quite satyr-like, occasioned by the swollen and hypertrophied condition of the skin of the face, which is furrowed with deep wrinkles, its venules also looking congested, and much more numerous than natural. The eyes look watery and somewhat prominent, the sclerotic muddy, and the conjunctivæ injected. There is, however, no pain, and the sight is unimpaired. The alæ of the nose widely dilated, distorted, and covered with small whitish scales and dark marks as of thin blood-crusts. The lips are very much hypertrophied, and similarly affected. The skin of the trunk and upper and lower extremities are studded with small dark-red spots, appearing as if blood had oozed from a number of minute punctures, and then hardened over them. There are also numerous tawny-colored spots, of a large size, marking the sites where the red tubercles had previously existed. The skin of the hands and wrists has a livid and glossy appearance, and, on scratching it, it looks white and powdery. The feet and legs are œdematous, and the ankles are covered with thin, dirty, whitish squamæ, which are easily removed, covering the stockings with a scaly

powder. The toe-nails are very imperfect and look cracked and dry, and so brittle that they are easily broken off. There is perfect anæsthesia of the skin over the head and face; also over the wrists, hands, legs, ankles, and feet: but sensation is perfect over the whole trunk, arms, and thighs, also on the neck and ears. The mucuous membrane of the hard palate is covered with a greyish slimy-looking incrustation, which remains after repeated washing and scraping; the fauces are similarly affected, deeply and irregularly furrowed, as if ulcerated; the tongue very much roughened and furrowed, and covered with a whitish incrustation, not removable by scraping. Taste as yet very little impaired. The breath is very foetid; there is no discharge from the nostrils; the body is not at all emaciated, and the muscles are well developed. The breasts look very much hypertrophied around the nipples—the left one especially so, feeling as if a small tumor, about two inches in diameter, existed between the skin and the muscle. He complains of a constant shooting pain in both breasts, which is increased by pressure. His head feels giddy and confused, and he continues to be haunted with horrid phantoms. The chest is well formed and resonant; sounds of the heart normal; impulse feeble. Pulse 80, small and weak. Appetite capricious; thirst considerable; bowels regular. The urine 1020 specific gravity, acid reaction, and deposits a small quantity of mucus on standing. Sexual desire, which at the commencement was excessive, is now entirely lost the testes, however, do not appear wasted. There is no trace of elephantiasis in his family history.

During the ten months he has continued an inmate of Guy's Hospital he has been treated with various remedies, but none seem to have had much effect in staying the progress of the disease, which has gone on slowly (as its nature is), changing very little in its general symptoms.

The following are some of the changes which have been observed during his stay in the hospital, until March, 1859:—The giddiness and spectral illusions ceased shortly after his admission, and he has only occasionally complained of them since; delirium has not recurred. He complains of increasing lowness of spirits, attended with great languor and faintness after slight exertion. He has had several attacks of nausea and vomiting, with occasional febrile symptoms; frequent and excessive night-sweats; a feeling (as he expressed it) of "dead coldness" in both breasts; pricking and shooting pains in his limbs, especially at night. The appearance of the skin has very little altered, with the exception that several crops of tubercles, of considerable size, have appeared on his legs and arms, and have then gradually been absorbed, leaving reddish and tawny spots, and, in some places, whitish, shining, and hardened cicatrices. Very few of the larger tubercles

have ulcerated; but the small ones on the nose and lips have done so frequently, discharging a glutinous-looking fluid, which hardens and scabs over the parts. The beard has ceased to grow, and he has shaved only once since his admission; the eyelashes are few; he has had an eruption of tubercles under the hairy scalp of the occiput, which has caused partial baldness over the part. The inflammation, whilst it lasted, was greatly relieved by cold applications. The eyes have become more prominent; the vascularity of the conjunctivæ, and the muddiness of the sclerotic, have both increased. The yellow spot (described by Danielssen) can even now be seen slightly elevated, and spreading like a ring around the margin of the cornea, which is irregular in its outline, especially at the upper border. He began to complain of deep-seated pain in the eyes in the first week of March, since which it has increased considerably; vision as yet is unimpaired. The anæsthesia is not constant, but the reverse; it is also very variable—e. g., a portion of skin may be now anæsthetic, and in a few days regain sensation; and another part which has now perfect sensation, may in a few days, become anæsthetic in turn. Within the last few weeks a small tumor has been observed in the upper and front part of both thighs, a little below Poupart's ligament, of an oval, elongated form, and easily movable under the skin; there is, however, no pain on manipulation.

The patient alleges that he has had a discharge of dark-colored blood (amounting to about three or four ounces at a time), on several occasions during the last five months, from the urethra; also, that at the same periods, a white milky-looking fluid exuded from both breasts. The latter part of this statement neither Mr. Nisbett nor others who have constantly watched him have yet been able to verify. What he states concerning the urethral discharge has been found to be correct.

#### LONDON HOSPITAL.

##### *Congenital Fissure of the right Cheek; Operation; Recovery.*

(Under the care of Mr. NATHANIEL WARD.)

PATHOLOGISTS describe hare-lip and fissure of the palate as the only remarkable abnormalities met with in the mouth; and as the solution of continuity in the lip or palate takes place on either the right or the left side of the mesial line—most commonly the latter—the wonder is that such fissures are not as often seen running through the cheeks. Fissure of the uvula is, of course, an exception to this one-sided deformity; and it is explained by considering the manner in which that appendage is developed. We place upon record an instance of congenital fissure of the right cheek, in an infant thirteen months old, upon whom Mr. Ward operated with success.

Mr. Fergusson gives two striking and interesting illustrations, in the fourth edition of his "Practical Surgery," of these deformities. In one, there is a fissure on the left side of the upper lip, resembling a hare-lip, and, on the right side, a fissure extends from the angle of the mouth upwards and outwards as far back as the malar bone, having no communication with the nostril. In the other child, the angle of the mouth extends horizontally to the front margin of the masseter. The rarity of these malformations renders the following case one of extreme interest.

A healthy child, aged thirteen months, became an out-patient, under the care of Mr. Ward, in October last. A congenital fissure extended in a horizontal direction from the natural position of the right commissure of the lips backwards as far as the anterior border of the masseter muscle. The saliva was constantly dribbling away, and when the child separated the lips, the greater portion of the cavity of the mouth, and the isthmus of the fauces were exposed to view. The act of sucking had not been interfered with; but the unsightly appearance of the child rendered the mother anxious for the rectification of the deformity, which she attributed to the circumstance of her having received a cut on her own face when five or six months advanced in pregnancy.

The case was treated like one of ordinary hare-lip. The edges of the fissure were pared, and two pins and the twisted suture were used. The pin nearer to the oral orifice was passed through either lip the one-tenth of an inch in front of the anterior extremities of the pared edges of the fissure, so as to take off as much traction as possible from the proposed new commissure. Strips of isinglass plaster, and a bandage to support the chin, were applied over the pins. One pin was taken out on the third, and the other, the nearer to the mouth, on the sixth day; and a few subsequent dressings completed the cure.

#### ST. GEORGE'S HOSPITAL.

##### *Wound of the Palm of the Hand and Superficial Palmar Arch; Ligature of the Radial and Brachial Arteries; Amputation of the Arm; Pyæmia; Recovery.*

(Under the care of Mr. HENRY CHAS. JOHNSON.)

The difficulties sometimes experienced in controlling hæmorrhage, when the arteries of the hand are wounded, are well illustrated in the following case. It was found necessary on the 14th day after the receipt of the wound to tie the radial, which arrested the bleeding for two days, when a ligature was placed on the brachial. This, again, afforded but temporary relief, and it seemed almost as if the patient had labored under a hæmorrhagic diathesis, although he stated he had never experienced any difficulty in stopping the bleeding from any small wound. Mr. Johnson amputated the arm at its upper

third, two days after tying the brachial artery. No bleeding arose from the stump, and the ligatures came away in due course, but the parts manifested no disposition to heal. Finally pyæmia set in, and the case appeared likely to terminate as unfavorably as so many others have recently done in this hospital from the same complication, when a slight change took place for the better; and at the present time, we are informed, there is a chance of his slow recovery.

From the free anastomosis of the superficial and deep palmar arches; the ligature of either the radial or ulnar artery alone will not always arrest hæmorrhage, as is pretty generally known; a ligature placed on both at the same time is more likely to be permanently effectual, and the structures of the hand will still be supplied with a sufficiency of blood to support their vitality.

For the notes of the case we are indebted to Mr. George F. Cooper, surgical registrar to the hospital.

William W—, aged thirty-eight; admitted March 15th, 1859. Is a barman. Six days previous to admission, he cut the palm of his hand, just at the ulnar side of the ball of the thumb, with a common table knife, whilst opening an oyster. He came to the hospital directly after the accident had occurred, when compresses were applied to the part, and he was sent away, the bleeding having been quite controlled. He was ordered to come every morning to have it examined; but each morning when the dressing was removed, bleeding always recurred; and on the night before admission, it came on with greater severity. On admission, the compresses were removed; and as on exposure to the air the bleeding ceased, cold-water dressing was merely applied, and the arm well raised. There was some slight cellular inflammation of the fore-arm, and the wound was in a sloughy state, about an inch in length, and half an inch across.

March 17th.—There was no more bleeding. He was ordered an anodyne draught, which was repeated next day.

19th.—A little oozing of blood from the wound, which was more sloughy. Dressing removed, and the whole wound well exposed to the air.

20th.—Bleeding having recurred to a considerable extent, Mr. Pollock was sent for; but as the house-surgeon had controlled it by means of compresses and a tourniquet applied to the brachial, nothing further was done, but he was ordered forty minims of laudanum at once, twenty more in two hours, and ten every four hours, if required.

21st.—The man is very weak and pale; much cellular inflammation of the arm; no more bleeding since yesterday. The tourniquet and compresses were still kept on.

22nd.—This morning, the tourniquet was loosened, and the compresses partially removed,

when the bleeding recurred. Mr. Johnson was sent for, who then tied the radial artery just before it passes the back of the hand; this controlled the bleeding. The wound is now as large as a crown piece, filled with dark-colored clot. To have ten minims of laudanum in saline mixture every six hours, and twenty minims every night.

23rd.—Very much thirst, and some fever; inflammation spreading up the arm; no more bleeding.

24th.—At twelve o'clock (noon) the hæmorrhage recurred; not arrested by pressure on the ulnar artery, the blood coming up from the deep part of the hand. At one P. M. the brachial artery was tied; no hæmorrhage from the wound caused by the incision. The man states, that whenever he cut himself, he has always been able easily enough to stop the bleeding.—Five P. M. No more bleeding.

25th.—Oozing of blood from the wound where the artery was tied, and also from the wound of the hand, but especially from the latter. There was a consultation of all the surgeons at one P. M., when it was decided that, as the bleeding was but slight, recourse should be had to medicines, and if then the bleeding recurred, the arm should be amputated. The man was exceedingly low. To have half a drachm of dilute sulphuric acid, ten grains of gallic acid, fifteen minims of sedative liquor of opium, to an ounce and a half of water, every four hours.

26th.—At one A. M. the arm was amputated by the circular method just above the place where the brachial was ligatured; no great bleeding from the parts. Ice was applied directly, both to the wound and to the upper part of the arm. Eleven A. M.: pulse weak, 120; no bleeding whatever; no sleep. The mixture to be repeated, and to have thirteen ounces of port wine, and six ounces of brandy.

28th.—Pulse much stronger; tongue moist, rather furred; stump looking well; no more bleeding.

On examining the limb amputated, the whole of the cellular tissue was found much infiltrated with serum and lymph, and there was also some blood extravasated there. At the wrist there was a large sloughy wound, which extended beneath the skin as far as the finger. On tracing the superficialis volæ artery, and also the ulnar, they were found to terminate in the sloughy mass; but the latter one, after its deep branch was given off. The ulnar nerve was healthy, and seen to run through the centre of the wound. The brachial artery was tied just below where the anastomotica magna was given off, and there was only a very small string of clot found above the ligature, looking like a post-mortem formation. There was no clot above the ligature of the radial, and both arteries were found healthy. No abnormal distribution of vessels in the arm.

April 1st.—Daily gaining strength.

5th.—All the ligatures have come away.

There has been no bleeding whatever since amputation; no disposition to heal; the parts look very pale and flabby; slight discharge.

The operation was followed in a few days by rigors, and all the other symptoms of pyæmia, followed by noisy delirium, and the formation of an abscess in the elbow-joint, which was opened on the 30th.

May 4th.—He is slowly improving, and is likely to recover.

#### WESTMINSTER HOSPITAL.

##### *Disease of the Spinal Cord through Caries of the Cervical Vertebra, producing a remarkable group of symptoms.*

(Under the care of Dr. RADCLIFFE.)

It may be reasonably assumed that the caries of the bones of the neck in the following most interesting case had its origin in syphilitic disease, commencing in their periosteal coverings, extending to the spinal dura mater, the coverings of the spinal nerves, and, to a certain extent, likewise affecting the spinal marrow itself, as evidenced by the singular group of symptoms which were present. These can be defined pretty accurately through the valuable researches of Dr. Brown-Séquard. They varied remarkably in either upper extremity. Thus anæsthesia, with voluntary motion, were noticed in the *left* hand and arm; whilst hyperæsthesia and impaired voluntary motion were present in the *right* hand and arm. The same influences which affected the right upper extremity were most probably extended to the right sterno-mastoid muscle, and the right side of the constrictors of the pharynx, as the dysphagia was but partial. According to the views of the distinguished physiologist already named, the group of symptoms enumerated would seem to indicate a commencing diseased action of the spinal marrow—namely, *alteration of the anterior columns*, on the *right* side, confined, in all probability, to the seat of the diseased vertebra, and although in the neighborhood, yet still below the medulla oblongata. On the other hand, the symptoms on the *left* side point to some *alteration in the posterior lateral columns and posterior roots of the spinal nerves*. Voluntary movements are quite possible in this condition of the cord, although reflex actions are *completely* lost in all the anæsthetized parts. We believe, however, that the disease has not as yet become vitally organic, because of the disappearance of the symptoms under the judicious treatment pursued. The production of pain, running down through the vertebra, on touching the vertex of the head, shows the acute nature of the disease in those bones, and its extension to the spinal centres. For the notes of this interesting case we are indebted to Mr. Arthur Charles Judges, clinical assistant to the hospital:—

John N—, aged thirty, residing at B Mews,

York-terrace, was admitted into the above hospital on the 15th February last. On admission, he presented a very curious appearance. The head was turned to the right side, apparently from contraction of the right sterno-mastoid. He could not open his mouth, except to the very smallest degree, from want of power of the depressor muscles. Posteriorly, along the upper part of the spinal column, from the occipital bone to the third or fourth cervical vertebra, there was a swelling which had a firm, hard feeling on pressure, but no pain was experienced by touching it. If, however, he were touched upon the vertex of the head, a pain seemed to run down through the vertebra. The least twisting movement seemed to cause intense pain. His face wore a troubled, anxious expression, as if he were suffering from great and continuous pain. The mouth, by effort, was open sufficiently to enable him to protrude the tongue between his teeth. The powers of mastication were necessarily very limited, although he had a very fair appetite. There was also some difficulty in swallowing; not that he experienced any of the sensations of ordinary sore-throat, but rather a want of power in the constrictor muscles of the pharynx, which caused the food to be retained there, and thus gave rise to a sensation of choking. In the left hand and arm there was a very marked deficiency in sensation, but the power of motion was tolerably good. In the right hand and arm it was just the reverse, the feeling if anything more acute than natural; but the power of motion was very slight.

The history of the case, though of a rather meagre character, appears to be as follows:—He has been a rather free liver. About ten years since he had syphilis, and four years back an attack of syphilitic sore-throat. Never had any nodes. From this he seemed to recover fully. He was a patient in this hospital last spring with rheumatic gout, principally affecting the knees, ankles, and feet, but more especially the latter. He soon regained his general health, but states that not long afterwards—viz., about seven months from the time of the present admission—"after he had had his hair cut," he felt a sudden stiffness at the back of the neck, drawing his head towards the right side. It has continued to get worse, and latterly he has been quite unable to bend his neck in any direction. The swelling has been gradually coming on during this time.

On admission, he was ordered to take a purgative of the compound decoction of aloes, &c., and six leeches were applied to the swelling in the neck. After they were removed, a linseed poultice, containing half an ounce of laudanum, was applied, to be repeated twice daily. Having some, or rather great, difficulty in masticating food of a solid character, he was put upon low diet, strong beef-tea and rice-pudding. After establishing a free purgation, he commenced a course of five grains of iodide of potassium,

three times a day; and ten grains of the Plummer's pill every night.

Feb. 25th.—The leeches were repeated. There is a slight improvement perceptible. He is complaining of a slight, hacking irritative cough, with a slight expectoration of a somewhat sanguineous mucus, the character of the latter being most probably dependent upon the straining force used to relieve the cough. The lungs are quite healthy.

March 4th.—Has almost lost the difficulty in swallowing. The pills cause no action on the bowels, and no mercurial effect is yet perceptible. He was now ordered to rub into the swelling strong mercurial ointment, and in addition to his diet a pint of porter daily.

11th. to 18th.—Evidently better in his general health. No mercurial action yet set up. Can move his hand better, and has much more sensation in the other one. The neck still painful.

25th.—The improvement continues slowly. He still complains of soreness and great tenderness in the swelling. Gums not yet affected.

April 4th.—In the last day or two the mouth has become tender. A marked increase of power and sensation in the respective hands. Can put his head rather more erect and walk about better. Ordered to omit the pills and application of the ointment.

A few days afterwards, a belladonna plaster was applied over the swelling.

Since that time, the improvement has continued slowly, though very marked when compared with his state on admission. He has alternately been in rather more pain, but the mouth can be opened much better, and the tongue protruded much further.

May 3d.—He is slowly recovering. Can now masticate some solid meat. The iodide of potassium has been continued up to this time.

#### UNIVERSITY COLLEGE HOSPITAL.

##### *Farre's Cancerous Tubercle of the Liver.*

(Under the care of Dr. HARE.)

When malignant disease occurs as an independent affection, in other parts of the body it is not commonly found to affect the liver. This is known to be the case in cancer or melanosis—nay, even the tuberculosis. Clinical experience, however, proves that this organ may take on malignancy in some one of its forms, as an idiopathic primary affection, which may, secondarily, extend to other organs, especially the stomach. The belief is maintained by many physicians that cancer of the liver is invariably secondary to the same disease in the stomach. This holds good in the great majority of instances, but not in all. In illustration, we may be permitted to refer to two recent examples brought before the Pathological Society. In one—colloid cancer of the liver—it was shown by Dr. Wilks that

the disease was confined solely to the hepatic organ. And Dr. Gibb exhibited a liver, weighing sixteen pounds, which was affected with an apparent mixture of the scirrhus and encephaloid forms of cancer, and which he believed was the primary disease, secondarily affecting the stomach. The facts tending to prove this were, the entire absence of any symptoms, such as vomiting, indigestion, or gastralgia, especially observable when the gastric functions are primarily disordered.

The following case, which we have taken from the hospital register, still further establishes the correctness of this view. The patient is twenty-five years of age, in whom cancer has firstly appeared in the liver, which has already attained such dimensions as to render it probable that it will exceed in weight the large example we have just referred to. Not a single symptom is present indicating gastric disturbance beyond pressure from the tumor and the ascitic fluid; and it is most likely that the mischief, at a later period will be found to have, secondarily, extended to the stomach.

When, besides general enlargement of the organ, distinct tuberosities can be felt over its surface during life, we have pretty reliable evidence as to the nature of the disease, which is found to depend upon the presence of round or oval tumors, disseminated and seemingly coalescing throughout the substance of the organ. This malady was at one time known as "Farre's tubercle of the liver," a designation which is well worthy of being retained; for whether the cancerous masses should constitute the varieties described as *tubera diffusa* or *tubera circumscripta* by Farre, the appellation would serve to comprehend both, as the main difference between the two is in their consistence.

It is remarkable that with such an amount of disease present in the liver there should sometimes be an absence of jaundice until perhaps within the last few days of life. The fact is, however, known to occur in many other affections of the organ, and thus a symptom of some significance is lost.

Thomas C——, aged twenty-five, was admitted under Dr. Hare's care on the 4th of April, 1859. He had lived nineteen years in London. His relatives all healthy. Had enjoyed good health until six months ago, when he had a pain between his shoulders, running down across his loins. This lasted two months. Two weeks afterwards, he had diarrhoea for three months, with much pain, his motions being of a bright red color. The abdomen began to swell when the diarrhoea ceased by the aid of medicine, but recurred occasionally. Has been losing flesh, but eats and sleeps well.

April 12th.—Has a slightly yellow tinge; very thin and feeble. The abdomen is barrel-shaped, unequal on the two sides, most prominent in the epigastrium and upper part of the umbilical region. Several tuberosities can be

readily seen, most prominent and gradually diminishing from above downwards. On applying the hand, a very large mass is found to occupy almost the whole abdomen, commencing on the right side; its lower border begins an inch and a half below the anterior superior spinous process, and extends nearly horizontally across the abdomen to near the left nipple line, where it courses sharply upwards to a level of about an inch above the anterior superior spinous process; here a distinct notch in the outline can be felt; and from that point the lower border extends above the crista ili of the left side, separated from it by the interval of an inch. The upper border of the tumor on either side superiorly, is found to approach the nipple to within an inch, or thereabout. At the right nipple line, the mass measures vertically thirteen inches and a half, and the left eight inches and a half. It therefore occupies almost the whole abdomen. Fluid is now slowly accumulating; the urine has been febrile, but is changing in character. Has vomited on two occasions, but eats well. The bowels are behind the tumor. The circumference of the abdomen is thirty-three inches. Feels oppressed, weak, and languid, and can scarcely sit up. He is under treatment at the present time, but the sequel shall be given on a further occasion.

#### ST. THOMAS'S HOSPITAL.

##### *Cancer of Liver, Peritonæum, Kidney, and Suprarenal Capsule; Fatal Result from Diarrhœa.*

(Under the care of Dr. RISON BENNETT.)

The patient who was the subject of the present case had an attack of diarrhœa, followed by severe pain in the liver and by jaundice, the latter persisting throughout her illness, which was explained by the obstruction of the hepatic ducts found after death. There was an absence of tumor, and no indication of cancer of the hepatic organ, although the general symptoms pointed to this viscus as the one affected. Food gave pain, and was occasionally vomited; nevertheless the cancer had not extended to the stomach. In Dr. Hare's patient, obstinate diarrhœa persisted for three months after the cessation of pain, and occasionally recurred. In both, we may fairly assert that the cancerous disease commenced in the liver.

For the notes of the two following cases we are indebted to Dr. Stone, medical registrar to the hospital.

Sophia W—, aged thirty-seven years, single, admitted under Dr. Bennett's care, April 20th, 1858. Had been ill two months. There had been no catamenial appearance for four years. She dated her illness from a sudden severe pain in the right hypochondrium, which followed on slight diarrhœa. Some medicine gave relief, and there had been no recurrence of the pain. Within a day or two jaundice came on and had persisted until admission. On

coming in she was much emaciated, and complained of cough and profuse expectoration; the legs were swollen; the abdomen contained some fluid; the urine was scanty and of bilious tinge; the skin was jaundiced, but not of a very deep tinge; the appetite was bad, food gave pain and was occasionally vomited; the bowels were very costive, and the motions light colored. Respiration and the cardiac sounds appeared normal, though very feeble. The hepatic dullness was not enlarged; and there was no evidence of tumor. During her stay in the hospital, emaciation continued; there was no change of symptoms, except the occurrence of diarrhœa, which latterly became severe, and was the proximate cause of death, which took place thirty-two days after admission.

On examination thirty hours after death, there was found cancer of the liver, peritonæum, kidney, and supra-renal capsule. The orifice of the left branch of the portal vein was closed; the hepatic ducts were obstructed by cancerous matter, and were greatly dilated behind the obstruction, containing an accumulation of decomposing blood. The liver was atrophied, but slightly above the normal size, from the replacement of the anterior part of the right lobe by a series of cancerous tumors, which had coalesced into one mass. The matrix appeared to consist of tough, whitish, fibroid substance, yielding little or no juice. This was studded with masses of tough, opaque, yellow, albuminous material. In some parts there were tracts in a soft, friable condition, evidently undergoing degeneration.

##### *Encephaloid Cancer of the Lung and Anterior Mediastinum, secondarily affecting the Liver.*

(Under the care of Dr. GOOLDEN.)

It will be observed that great anasarca of the upper part of the body was a prominent and distinctive feature in the following case; this was caused solely by the encephaloid cancer of the right lung, which extended upwards into the supra-clavicular region, and occupied the anterior mediastinum. The progress of the disease from first to last was remarkably rapid, which, perhaps, will explain why the liver was not more engaged than it was found to be after death. Three cases which we place upon record on the present occasion form an interesting and instructive series, and illustrate very clearly some of the phases of cancer of the liver.

James C—, aged sixty-eight, schoolmaster, admitted under Dr. Goolden's care on the 14th August, 1858. He stated that the left side had been partially paralyzed from birth, but that otherwise his health had been good. The illness commenced four months previously, with cough and copious expectoration. Shortness of breath, and great anasarca of the upper part of the body only, had been coming on for two months. On admission, the lower half of the



trunk and the legs were much emaciated; the arms, face, and upper part of the chest were highly oedematous; breath very short; lay entirely on right side. The left side of the chest was resonant, and the breath sounds audible, but harsh, and accompanied by rhonchus. The right side was dull throughout, hardly any respiration to be heard. Fulness in left supra-clavicular region. The appetite was good, bowels regular, tongue clean, pulse equal in both wrists; urine not albuminous. He continued without much change, and died on the eleventh day after admission.

On examination of the body thirteen hours after death, there was found extensive encephaloid cancer of the anterior mediastinum, bronchial glands, lungs, bronchial tubes, and liver. The liver was of moderate size, presenting three or four tumors, from the size of a chestnut downwards, of a roundish form, well defined, white, soft, and yielding much juice on pressure. The tissue in other parts was perfectly healthy.

The cancerous matter, on microscopic examination, was found to consist almost entirely of small rounded or oval nuclei, sometimes free, but often presenting more or less distinct evidences of investing cell-walls. These were sometimes fusiform, sometimes caudate and sometimes irregular in shape.

#### ST. BARTHOLOMEW'S HOSPITAL.

*Retention of urine from stricture temporarily relieved by opium; subsequent puncture of the bladder through the rectum; recovery.*

(Under the care of Mr. SKEY.)

The causes which give rise to retention of urine are various; the most common, however, is stricture of the urethra, either in its spasmodic or permanent forms. A person who may have imbibed freely over night, is seized in the morning with utter inability to pass urine; this arises from spasmodic contraction close to the bladder, the result, probably, of some amount of inflammatory congestion, irritability from gonorrhœa, or diseased condition of the urine itself, or perhaps from a very slight stricture. An example of this form of retention is given in our "Clinical Records," as well as another in which it was produced, in a pregnant woman, by mechanical pressure of the uterus of the neck of the bladder. Hysteria, palsy of the bladder, and an enlarged prostate gland, are other well known causes; but they are by no means comparable in frequency with retention of urine from organic stricture, an instance of which is given in the following case, for which we are indebted to Mr. Rayner W. Batten, house-surgeon to the hospital. The judicious administration of full doses of opium permitted the bladder to pass sixty-three ounces of urine in the twenty-four hours, with complete relief for two days. The

same treatment then proved ineffectual, and resort was had to puncture of the bladder through the rectum. From that moment, as we have witnessed on several previous occasions, the stricture began to yield to the use of instruments, and was cured before the patient left the hospital, the opening in the rectum having closed.

William M—, aged fifty-two, was admitted early on the morning of Dec. 30th, 1858, with retention of urine. His bladder at the time of admission was greatly distended, reaching nearly to the umbilicus. He has suffered from slight symptoms of stricture for eighteen years; but no attempt has ever been made to pass an instrument into the bladder until the present time, nor had he prior to this attack suffered from retention of urine. On the 29th of December he was suddenly seized with a desire to pass urine, and, being unable to do so, applied to his club surgeon. The latter, failing to get a catheter into the bladder, sent the patient to this hospital, where an attempt was again made to empty the bladder, but without success.

The patient was admitted into the hospital at eight a. m. on December 30th, and ordered forty minims of tincture of opium at once, and to have a hot bath. At noon he had passed a very little urine. He was now seen by Mr. Skey, who tried to pass a catheter, but without success. He was, therefore, ordered forty minims of tincture of opium in an ounce of decoction of starch, to be used in the form of enema.—Two p. m.: The retention has now existed for thirty hours, and it was decided to empty the bladder by a puncture through the rectum. Whilst, however, the instruments were being fetched, the patient passed eight ounces of urine. The operation was consequently not performed.—At ten p. m. he passed twenty-four ounces, and at eight a. m. (December 31st) he passed thirty-one ounces of urine.

The patient went on well until January 2nd, when he was again unable to pass his urine. He was ordered a hot bath, and forty minims of tincture of opium internally, and an opiate enema of the same strength, with starch, as on a previous occasion. In two hours' time another enema, with a drachm of tincture of opium, was administered. No relief to the symptoms, however, was obtained, and at eleven p. m., (after twenty-four hours' retention) the bladder was punctured through the rectum by Mr. Skey. The canula was fastened in, the plug being removed from its orifice very frequently. He went on well until the 13th, when an abscess was discovered over the pubes at the root of the penis. The abscess was poulticed, and on the 16th it was opened, a large quantity of very foetid pus escaping. During the period his health was kept up by wine, &c., and he was ordered the mineral acids, bark, and henbane, and a morphia draught at night.

Jan. 18th.—Mr. Skey passed a No. 4 elastic catheter into the bladder through the urethra;



this catheter was fastened in, and the canula removed from the rectum.

After three days the catheter was removed and a larger one used. Since this time he has gone on well, and a No. 8 catheter is now readily passed into the bladder every other day.

He left the hospital the first week of March with the opening of the bladder through the rectum healed, and being able to pass his urine in a tolerably full stream.

#### ROYAL FREE HOSPITAL.

*Compound fracture of the Leg, with protrusion of the fibula and extensive sloughing of the soft parts; recovery with an excellent limb.*

(Under the care of MR. THOMAS WARLEY.)

The following highly interesting case, to which we incidentally referred last week, was at one time most unpromising, from the great extent of the sloughing process, superadded to the injuries sustained from the machinery. Although there was considerable tumefaction on the night of the accident, it did not appear to be the result of a wound of any of the blood-vessels; and as the patient's age and constitution were alike favorable, conservative measures were adopted, with results that speak for themselves. For the notes of the case we are indebted to Mr. J. J. M'Gregor, the late house-surgeon to the hospital.

James B——, aged eighteen years, a carpenter, was admitted on the 23rd of November 1858, having sustained a fracture of the leg from the fly-wheel of a locomotive engine, which precipitated him into a pit eighteen feet in depth, with two pieces of heavy timber which fell upon him. On his admission, it was discovered that there was a compound fracture of the lower third of the leg, with the fibula protruding through a small wound. There was no hæmorrhage. The limb was put in position by the house-surgeon, and a piece of dry lint was placed over the wound. In a few hours the limb became enormously distended and swollen. Saturnine lotions, and afterwards warm fomentations, were assiduously applied without avail, and it soon became evident that gangrene was coming on. Stimulating applications were now used, to hasten the sloughing process, which extended from the upper third of the leg to the heel. After the sloughs came away, profuse suppuration was established, and the patient's health became very indifferent, being affected with hectic fever at night and perspirations, with an irritable pulse and brown tongue. Full diet, wine and brandy were ordered, with the mineral acids and bark, and opium, at night. Much benefit was derived from equal parts of linseed meal and powdered charcoal, as a local application in the form of poultices. Matters continued in this state for several weeks. Amputation now became a subject for consideration. The limb was put upon an inclined plane, with Scott's lotion as a dres-

sing, a many-tailed bandage, and carrot poultices at night. Under this treatment, he progressed wonderfully; the suppuration became daily less, his appetite improved, and his general health became much better. Consecutive abscesses formed above the seat of the injury, and proved troublesome by burrowing and forming sinuses, especially one situated immediately above the popliteal space. These were freely laid open by the house-surgeon whenever they appeared. By the 10th of March, the abscesses were nearly all healed up, and the protruding fibula was covered by granulations, which were numerous and healthy. The man's health was admirable, he had acquired much flesh and seemed rapidly approaching convalescence.

The fibula, having been deprived of its periosteum, became necrosed; latterly, two portions of it, and one of the tibia, were removed at different times, and a fourth fragment which is loose, will shortly be excised. There is now a small ulcer over the position of the external malleolus, the foot and leg are assuming their natural shape and dimensions, and the patient walks about with the aid of crutches, his general health being perfect. There is a good deal of motion in the ankle-joint.

*Triple Fistula operation in Ano; successive operation with Gant's "Concealed Fistula Knife;" Recovery.*

(Under the care of MR. GANT.)

We have lately watched with some interest the progress of several rather severe and extensive anal fistulæ in a male patient, the result of a double ischio-rectal abscess, which appears to have burrowed on either side of the bowel. After a series of operations, the patient left the hospital quite cured: this good result at one time seemed doubtful, from the depth and extent of the fistulæ. For the principal facts of the case we are indebted to Mr. Nathaniel F. Hall, house-surgeon to the hospital.

John U——, aged thirty-two, a waiter, was admitted on the 7th of March, with fistula in ano, which he had first noticed about six weeks previously. The man had been living poorly and irregularly, and his general health was somewhat reduced. A complete fistula was discovered on the right side, which opened into the rectum, nearly four inches from the external opening, situated one inch from the anus. The probe, when passed within the fistula, could be readily moved about over a considerable portion of the rectum, which had been dissected away during the process of suppuration. The patient was put on full diet, with a tonic mixture three times a day.

On the 10th of March, a large abscess pointed on the left side of the anus, nearly opposite the right fistula. This was at once opened, and emitted a considerable quantity of fetid pus. A probe being introduced, found its way into the rectum, at a distance of 3 inches and a half from the external opening. Aperient medicine was

duly administered to completely free the rectum, and on the following day Mr. Gant divided the sphincter through the fistula on the right side, using his "concealed fistula knife." This new instrument (made by Messrs. Weiss) we would now call attention to, having on previous occasions witnessed the more simple and satisfactory operation for fistula now performed by Mr. Gant. The instrument consists of a curved, sharp-pointed bistoury blade let into a narrow groove or director, and is thus completely concealed, being finished off with the handle of a scalpel. On the back of this handle is a button, so placed as to be conveniently touched by the forefinger. This action at once projects the concealed blade, and converts the director into a bistoury having a sharp point. The instrument having been first introduced as a director (or probe), is passed through the fistula, as usual, until it touches the fore-finger of the other hand within the rectum; or if the fistula is incomplete, the thinned point of the bowel is sought in the usual way; then, by touching the button on the back of the handle, its blade is made to project, and the bowel and sphincter may be readily divided. Thus, the previous introduction of, first, a director or probe, and then a bistoury, is unnecessary. The operation, begun and completed with but one instrument, is more simple and speedy, and in the event of an incomplete fistula, also more safe. The sharp-pointed bistoury then used is apt to pass out of the sinus and pierce the bowel in the wrong situation—an accident the more imminent, should the fistula be removed further than usual from the bowel, and its course therefore less distinctly felt.

The wound, after the operation alluded to, was lightly dressed with lint, and it healed gradually from the bottom.

Very shortly, the fistula on the left side burrowed anteriorly as far as the bulb of the urethra, and posteriorly towards the coccyx. Mr. Gant divided the sphincter on this side (22nd of March), and laid the fistula and bowel open as high as the inner opening of the former. He also divided the sinus anteriorly as far as the bulb of the urethra. These sinuses evinced no disposition to heal, as another fistula had formed on the right side, lower down and nearer the raphe than the former one, which had soundly healed. The third fistula was also laid open into the bowel (April 19th), and dressed as before. Both fistulae now began to throw out healthy granulations, and to suppurate freely. Opiates at night were administered. The bowels were kept confined for five days after each operation. The wounds were kept clean and lightly dressed, until healed towards the surface and the contraction of the sphincter, and then allowed to granulate more freely.

The firm cicatrices were seen corresponding with the several operations; and the man was discharged on the 18th of May cured, and in good general health.

## ST. MARY'S HOSPITAL.

*Treatment of Varicose Veins by Blistering; Removal of an Hæmatic Cyst from the breast of the same patient.*

(Under the care of Mr. URE.)

The treatment of varicose veins is divided into the palliative and radical; the former is most commonly resorted to. When admitted into our hospitals, patients are generally submitted to curative treatment in some one of its forms, as has been noticed in our "Mirror" on several occasions, the one usually preferred being the application of pins or needles beneath the vein, laying a piece of bougie over it, and then applying the twisted suture around the pin and over the bougie. Failure by this method is comparatively rare. Latterly Mr. Ure has treated several cases of varix successfully by repeated blistering over the veins, the result being consolidation and subsequent obliteration. A radical cure is, therefore, effected as completely as when the needles have been employed. This plan deserves a fair trial. We append the notes of the first case thus treated, taken by Mr. Achille Vintras, the resident medical officer to the hospital:—

Jane L—, aged forty-eight, single, admitted into the hospital, October 2nd, 1858.

*History.*—About a month previous to her admission she struck her right knee against the corner of a packing-case. Pain and swelling of the limb soon followed the injury: the knee became quite stiff. She went on for nearly a fortnight applying fomentations, without much relief, but still following her occupation. The other knee became inflamed, and this was accompanied with inflammation of the veins near the joint and up the thigh. She has suffered from varicose veins for the last thirty years, and was under hospital treatment for the same a few years ago.

Oct. 3d.—The knee is swollen and tender on pressure at the inner side; the internal saphena vein is much dilated and tortuous; several hard nodes are felt in its course. There is evident chronic thickening of the cellular tissue surrounding the veins, extending from the knee up to the groin. The patient complains of shooting pains in the whole of the right leg; she seems depressed and out of health. A poultice is directed to be applied on the inflamed parts; an opiate given at night, and a dose of quinine mixture thrice daily.

4th.—Knee much easier; veins still swollen and painful; had no sleep at night. She complains of a severe pain in her right side; pulse 80, rather weak.

6th.—The swelling of the knee has nearly disappeared, and there is very little pain in the leg at present. She had a mustard poultice applied to her side last night, after which the pain abated; she slept comfortably; tongue still white.

8th.—Mr. Ure's attention was called to a

swelling in the right breast. This has a firm and solid feel, but not the hardness of cancer. It is embedded in the substance of the breast, a little to the right of the nipple; it feels about the size of a chestnut, but though circumscribed, is not well defined. The nipple is prominent, and from it there is a slight serous oozing when pressed. She has at times darting pains in the breast: and these, in the first instance, were felt in the right arm. She first perceived the swelling last February, when it was about the size of a small nut. There are no indurated glands to be felt in the axilla, or below the clavicle. The catamenia are regular.

12th.—No pain at all in the limb; veins still swollen and hard, but no tenderness; sleeps well; tongue clean; appetite good.

20th.—*Operation.* The patient being completely under the influence of chloroform, Mr. Ure pressed the tumor to the inner side of the nipple, and keeping it in that situation, made a vertical incision, about three inches in length, through the integument, and, in so doing, opened a cyst, from which a spirt of dark bloody colored fluid escaped. The cyst was then carefully dissected out. Three vessels were secured by ligatures, and the edges of the wound brought in contact by means of sutures. A compress of wet lint completed the dressing.

"The cyst wall was thin, of a brownish-red hue, not unlike the inner lining membrane of the heart. The cyst membrane was smooth, and, according to Dr. Sieveking's microscopic examination, consisted of two layers; the inner one very thin, of an amorphous and granular character, showing no appearance of cell formation, and closely resembling the membrane of an hydatid cyst, without however, presenting the different series of laminae; the outer one, which may be called the wall of the cyst, consisting of fusiform fibre-cells, interspersed with oily matter."

21st.—Pulse 72, soft; tongue clean. She feels thirsty; was sick after the operation, and attributes the nausea, which still continues, to the effect of the chloroform. She slept badly; wound looks natural, and is free from stiffness. An effervescent draught was ordered every four hours.

27th.—Wound healing rapidly.

Nov. 1st.—Tenderness on pressure of varicose cluster at the inner side of the knee, and also up the inner side of the thigh. The application of the tincture of iodine, repeated daily for the last few days, does not seem to have produced any marked good result. A blister was ordered to be put over the course of the smaller veins.

3d.—The blister rose well.

10th.—The venous dilatation at the inner side of the knee has quite disappeared; total subsidence of the varicose condition of the internal saphena vein at the inner side of the thigh; the course of the circulation is apparently interrupted. The patient convalescent.

Jan. 23d, 1859.—Jane L.—came this day to the hospital, and, on examination, no varicose dilatation of the veins could be detected in her leg, which is perfectly natural in appearance.

As it is now more than two months since she left the hospital, during the whole of which period she has been engaged in work, the treatment in her case, may be said to have been most successful.

### *Cases of Complicated Malaroid Remittent Fever.*

(Under the care of Dr. HANDFIELD JONES.)

In the first two of the following cases, it may fairly be asserted that if quinine had not been the appropriate remedy—if the diagnosis of malaroid disease had not been correct, the treatment would have aggravated, instead of ameliorating, the symptoms. In the third case, the abdominal complication was so prominent that Dr. Jones did not recognise the basis malady till the mention of profuse sweating during sleep gave him the hint. This is a very frequent and significant symptom of obscure malarious disease, as well as that noticed in the second case—the dark infra-orbital coloration in the morning. It scarcely needs remark that these signs, especially the first, acquire all their special import from their existing in circumstances where no other disease can be detected. Of course, if the profuse sweating co-existed with signs of tuberculosis, it would lose all significance of malarious disease.

Case 1.—T. M. A—, aged two, male, admitted Jan. 10th, 1859. Ill fourteen days. Had two fits at first, and one last night; during the fits, and at other times, he beats his head as if he had pain in it, and works the back part of his head about against the pillow. Head rather hot, skin hot, pulse feeble and quick, bowels costive, no appetite, tongue clean. Knits his brows. Is dreadfully irritable, even in the day-time. Always screams when pain takes him in the head.—From five P. M. to five A. M.: is very restless and delirious. Has been sick (vomited) once only, yesterday. Pupils of medium size. No fever (typhoid) spots. Ordered, two leeches to the temples; two grains of mercury-with-chalk at bedtime, and castor oil when required; one grain of disulphate of quinine three times a day.

Jan. 13th.—Had a double dose of quinine last night, and passed a very good night; did not disturb his mother once. Bowels open, motions healthy. Repeat mixture; to take two grains of disulphate of quinine at night.

17th.—No fever now; head cool; has better nights. Repeat mixture.

31st.—Medicine taken regularly, though he dislikes it and resists. Looks very well; sleeps much better, but has no appetite; bowels right. Ordered, mercury-with-chalk, one grain every alternate night.

Feb. 7th.—Is much better; appetite much improved; sleeps very well indeed.

Case 2.—M. A. B——, aged six, female, admitted March 1st, 1858. Ill three months. Coughs and brings up phlegm and blood, mostly at night, after she has gone to bed about an hour; does not cough much in the day. A good deal of blood was brought up the last time. Is very restless at night; much headache at times during the day. Is very dark under the eyes in the morning. Tongue clean; pulse quiet. Is languid, and has no appetite. Breath-sound in both sides of the chest natural, both in front and behind. She had been under Dr. Jones's care about a year and a half previously, with a history of "intermediate" fever, dysentery, measles, and pertussis, ending in pneumonic consolidation of the upper part of the right lung. To have two grains of disulphate of quinine three times a day.

March 11th.—Cough much better; appetite very bad; eczema in both elbows at flexures; is stronger; no sickness; tongue clean; bowels open. Repeat mixture; and also to take two minims of the liquor of arsenite of potass in a drachm of water three times a day.

25th.—Is much better, eats very heartily sleeps well, and does not cough.

Case 3.—H. J.——, aged five, male, admitted April 19th, 1858. Ill four weeks. Skin hot; pulse rapid; bowels much relaxed, and motions very offensive. Breathing in both backs is rather harsh, but not attended with any notable rale; coughs very little. Is greatly emaciated; used to be very stout. To have one grain of mercury-with-chalk and two grains of Dover's powder three times a day; cod-liver oil, one drachm three times a day.

April 22nd.—Bowels less relaxed; is less feverish; eats better; "craves after the oil."

26th.—Looks very ill; lies in his mother's arms with all the appearance of being hopelessly phthisical. Bowels more relaxed; no appetite. Continue the oil. Trisnitrate of bismuth, fifty grains; tincture of opium, fifty minims; mucilage, two ounces: a drachm after each liquid stool.

May 3rd.—Will eat anything; bowels quiet, but motions very dark and offensive. Repeat oil and mixture when necessary.

17th.—Looks very much better; appetite good; skin hot and febrile, moist; takes little more in the way of medicine than the oil. Clear breathing in both backs.

24th.—Eats ravenously; is gaining flesh; less feverish; bowels apt to get loose. He sweats most copiously at night, and in the day if he sleeps. Repeat mixture and oil. Disulphate of quinine, eighteen grains; dilute sulphuric acid in quantity sufficient; sedative liquor of opium, twenty-five minims; water, an ounce and a half: mix: a drachm twice a day.

31st.—Walked to the hospital to-day; sweats less at night; bowels right; abdomen large, and

seems decidedly tender; appetite good. Repeat mixture, quinine and oil.

June 14th.—Is well; does not complain when the abdomen is handled. Repeat the oil in ten days. Discharged.

## Clinical Records.

MAY—JUNE.

### REMOVAL OF THE UPPER JAW FOR FIBRO-PLASTIC DISEASE.

The important operation of excision of the upper jaw-bone, on the right side of the face, was performed by Mr. Prescott Hewett, at St. George's Hospital on the 19th ult. The patient was a healthy man, a little over fifty years of age, who has suffered from disease of the antrum for between three and four years. He was in the hospital eight months ago, under the care of Mr. Caesar Hawkins, at which time there was considerable doubt as to the true nature of the case, because fluid could be injected into the antrum. The belief, however, was entertained by Mr. Hewett that there was, notwithstanding, a tumor of that cavity. After remaining for some months, he left the hospital, and was re-admitted five weeks ago. There was still a difference of opinion as to the nature of the case, though the presence of a tumor was now evident enough, producing a projection of the anterior wall of the antrum, and a certain amount of disfigurement. It was either malignant or non-malignant; if the former, it was thought that an operation was unjustifiable. Mr. Hewett believed it to be a fast-growing fibrous polypus, and very vascular. The growth was now in the antrum; it had crept into the nostril and lachrymal canal (as evidenced by a lachrymal tumor), and had spread under the orbit; it had besides absorbed part of the cheek. Then came an abscess, with loose infiltration in the skin overlying the tumor; this was believed to be non-malignant. Two weeks back another consultation was held, and an operation approved of, which was undertaken by Mr. Hewett. Accordingly, on the 19th inst., the patient (who was otherwise a very healthy man) being seated in a chair, and placed fully under the influence of chloroform, an incision was made from the angle of the mouth backwards to the zygoma, and another from below the inner canthus of the eye, downwards alongside of the nose, round the ala, into the nostril, and then through the mesial line of the lip. The flap was then dissected up, and after using the forceps, the bone, which was broken into two portions by the disease, came away in two pieces, the lower first and the remainder afterwards. This circumstance added somewhat to the difficulty of the operation, but every fragment of the disease was taken away. The tumor did not present the character of malignant disease, but a portion of it, which was

examined before the operation, showed it to be benign, and composed of fibro-plastic material. Very little hæmorrhage ensued, until Mr. Hewett cut into the pterygoid fossa, when he happened to wound the internal maxillary artery, which was followed by a spirt of blood. This, however, ceased on the application of the ligature, which was the last step of the operation previous to bringing the edges of the flap together by sutures. The floor of the orbit was removed in this instance; and as all the disease has been taken away, it is to be hoped that the patient will not only recover, but that he will be effectually cured of his malady.

#### NECROSIS OF BONES OF THE TARSUS.

A sailor was brought into the operating theatre of St. Bartholomew's Hospital on the 7th inst., with necrosis of the bones of the right tarsus. In November last Mr. Skey removed a considerable amount of diseased bone from the same foot. The man went on very well for a month or so, but sinuses remained, and gave indications of a return of the disease. On the present occasion, an opening was made over the affected parts, and much necrosed bone was again taken away, including the greater part of the second row of tarsal bones. Mr. Skey afterwards remarked that he repeated the operation on this occasion, for the purpose of affording a remote chance of saving the patient's foot. Sometimes he succeeds, but one case in every three fails, because the necrosed condition returns. He thought it might, perhaps, have been preferable, on the whole, to take off the foot; but, acting on the principles of conservatism, it was desirable to give the patient another chance, inasmuch as the operation for the most part is a successful one. Should the results not turn out as desired, and should the patient come before him a third time, it would be necessary to resort to an operation of more importance.

A case of necrosis of the tarsus, in a young man, was submitted to operation on the 16th inst., at St. George's Hospital, by Mr. Tatum. On laying the diseased parts open, there was found a cavity in the scaphoid bone, which was carefully scooped out and freed from necrosis, and then filled with lint. As the mischief is confined solely to the bone in question, it is to be hoped that good results may ensue.

#### FALL FROM A TREE BREAKING THE ARM AND LACERATING THE SCALP.

A lad, sixteen years of age, had climbed up a tree at Highgate, and when about twenty-two feet from the ground, he slipped and fell, and sustained a compound fracture of his right forearm, with an extensive lacerated wound of the scalp. The latter was tongue-shaped, its base being situated at the back part of the occiput, towards the left side of the head. The pericranium was not only laid bare, but was torn and removed in several places, as we were informed by the house-surgeon of the hospital, Mr. N. F.

Hall. The width of the tongue-shaped piece of skin was about four inches, whilst its length was five inches. The lad was admitted into the Royal Free Hospital on the 28th of April, the day of the accident, and placed under Mr. de Méric's care. The scalp wound has already healed to a considerable extent, and is granulating healthily in the open portion of it. There were some symptoms of cerebral disturbance for the first few days, but they were kept under control by mild saline aperients. The ulna was fractured immediately above the styloid process, with a wound leading to it; and the radius was broken at its middle third. The fracture has united, and the lad is, on the whole, going on well, and will no doubt make a good recovery.

The feature of interest in this case is, the extent and severity of the scalp wound, which is not only healing kindly, but has not interfered with the formation of callus at the seat of fracture in the forearm.

#### NEURALGIA OF THE SCIATIC NERVE, FROM A FATTY TUMOR, CURED BY REMOVAL OF THE LATTER.

We were shown on the 10th instant, in the Charing-cross Hospital, a patient under Mr. Hancock's care, whose case is a very instructive one. The patient a stout, well-developed man of fifty-three years of age, residing near Windsor, has been subject to sciatica of the right side, as was supposed, for the last three or four years. He has undergone a variety of treatment, at the hands of numerous medical practitioners, without experiencing the least relief. Galvanism was persevered in uninterruptedly for twelve months, and the patient was told that a swelling present at the seat of pain was nothing but wind. He then drank the mineral waters at Bath for a short time, without any benefit; and at last he was persuaded to come into this hospital, which he did on the 12th of April. On examination, Mr. Hancock found a tumor situated behind the trochanter of the femur, which he pronounced to be adipose, pressing on the great ischiatic nerve, and thus giving rise to the pain so long complained of. It was removed on the 16th April, and was found to be as large as a hen's egg, much flattened, fatty (as diagnosed), and embracing the nerve in question. The result of this treatment has been the disappearance of the neuralgia; the patient has regained his powers of progression, which had been seriously impaired; his general health has become good, and his aspect is cheerful and contented. He will shortly leave the hospital.

In the treatment of any case of sciatica, the course of the affected nerve is generally examined, and if there be evidence of the pressure of a tumor upon the nerve, then a palpable cause for the pain is made out. The diagnosis will be materially assisted also by observing whether the pain becomes increased or diminished by pressure; and if it should be ascertained that

the tumor is not neuromatous, the course to be pursued is clear enough, and will be followed by such results as were obtained in Mr. Hancock's patient.

#### EPITHELIAL CANCER OF THE TONGUE AND THROAT.

On the 9th inst., we saw an example of cancer in its epithelial form, affecting the tongue of a man fifty-five years of age, a plumber by occupation, who was admitted on the 26th of April into the Royal Free Hospital, under Mr. de Méric's care. Its growth has been remarkably rapid, for the patient's attention was only drawn to it about two months ago. The tongue is very much thickened generally, with ulceration posteriorly at its right side, and also upon the dorsum, which is covered by a foliaceous elevation at its back part; from these there is as yet no very great secretion, but the odor is horribly foetid. He states that previous to the tongue disease he had always been a healthy man; his complexion has now a sallow and yellowish tinge, which is quite remarkable. On going into his history, we learn that he has been in the habit of frequently trying with his mouth whether brass taps were water or air tight, and this has mainly been ascertained by inserting the tip of the tongue. Whether this has had anything to do with the induction of the present disease is a very doubtful question. The organ is painful, particularly at night; he has cough; the glands on the left side of the neck are beginning to swell; and there is a chronic ulcer on his right leg, which he has had for forty years, but has much improved by treatment during the short time that he has been in the hospital. The progress of this case has been so very rapid that it augurs unfavorably for the poor man. We are reminded of a case somewhat similar, recently under Mr. Curling's care at the London Hospital, in the person of a man of sixty-five years, whom we examined on the 14th ult. The soft palate and base of the tongue were affected with epithelial cancer, but in too advanced a stage of disease for operation, more particularly as it had extended to the glands at the base of the lower jaw.

#### EXTERNAL EPITHELIOMAL ULCERATIONS.

In the same ward of the Royal Free Hospital in which is the case of cancer of the tongue, under Mr. de Méric's care, described in the foregoing record, is another patient at the advanced age of eighty years, who has an ulcer about three and a half inches in diameter, situated on the right side of the forehead. It commenced a year ago, caused by a blow from the wheel of a cab. Since his admission, on the 30th of March, under Mr. Cooke's care, it has somewhat improved; but a portion of the bone is exposed, around which is a ring of distinct epithelial cancerous ulceration, which secretes a peculiar discharge. The general ulcer has encroached

upon the supra-orbital ridge, and exhibits no disposition to heal.

This case reminds us of one of a more aggravated form in a woman at St. Mary's Hospital, upon whose left leg was a flat but slightly elevated tumor, possessing the characters of epithelioma on the eve of ulceration. It supervened upon the removal of a nœvus about twenty months ago, and was completely excised by Mr. Spencer Smith on the 6th April, with good effects up to the present time. This patient has two other and smaller tubercles, one situated on the leg and one on the forearm, which are probably of the same nature as the tumor removed.

Amongst the various remedies employed in the treatment of this form of cancer, we do not often see the actual cautery used, although it has been highly recommended by many surgeons. We were present at the Westminster Hospital on the 15th April, when Mr. Holt-house applied it upon the left side of the tongue of a young woman, who has been the subject of cancer of this organ for about a year. Nitric acid was first employed without any marked benefit, then the cautery, the present occasion being the third time of its application; and she has experienced the greatest relief from it, as the character of the ulceration seems to have become changed for the better. It was used under chloroform, and no inconvenience was experienced afterwards.

#### FIBRO-NUCLEATED TUMOR OF THE ABDOMEN.

An instance of this rare form of growth came under our observation, at St. Mary's Hospital, on the 6th ult. in a man forty-seven years of age, who was a patient under Mr. Coulson's care. It was about the size of an orange, somewhat flattened, with a thin, cutaneous covering, and of a deep crimson color; it had just commenced to ulcerate, and was situated below and to the right of the umbilicus. It has been growing slowly for the past two years, but the patient states that he has had a mark in that part of his abdomen ever since he can remember. Mr. Coulson removed it on this occasion under chloroform, and stated that he believed it to be epithelial cancer; but a careful examination of its histological elements, made afterwards by Mr. Walter Coulson, pathologist to the hospital, unmistakably showed it to be that rare form of growth, fibro-nucleated tumor—one which occupies an intermediate position between innocent and malignant. This is the third specimen we have seen removed from the surface of the abdomen, each presenting a striking resemblance to one another.

This form of tumor was first described by Dr. Hughes Bennet, and is dwelt upon by Mr. Paget in his work on Tumours. Illustrations of its ultimate elements are given by both. Mr. Paget believes a near affinity will yet be proved between it and the recurrent fibroid disease

because the general characters of the tumors in question are repetitions of the recurrent fibroid. As we have mentioned on previous occasions, there are no means of diagnosing this tumor unless by the aid of the microscope. We are led to believe, however, that the growth in Mr. Coulson's patient was of this character from the striking resemblance it bore to those in the two patients whose cases we have previously recorded.

#### BRIGHT'S DISEASE, AND STONE IN THE BLADDER.

There can be no doubt whatever, that the mortality in many cases of lithotomy is due to disease of the kidneys, which has not been suspected before the operation, because the urine has escaped chemical examination, or because the symptoms referable to the presence of the calculus have either masked those dependent upon the renal disease, or were themselves the result of it. A surgeon will hesitate to cut for stone when he finds the urine distinctly albuminous, and of a low specific gravity. If circumstances permit, he will make choice of lithotomy, with much less risk of mischief. An instance in illustration occurred on the 19th of April at the Westminster Hospital, in a man, thirty-eight years of age, who was a patient under Mr. Holt's care. He had been the subject of stricture for many years, and was lately operated upon with the dilator, and three strictures were split up, which was followed by the passage of three small urinary calculi by the urethra. On the present occasion chloroform was given by Dr. Anstie, and a stone, the size of a walnut, was partly crushed by Mr. Holt, who expressed his intention of repeating the operation until it was completely got rid of. The operator stated that the urine had been carefully examined, and was found to be albuminous, else he should at once have resorted to lithotomy. The patient is the subject of torticollis, besides the affections indicated above.

#### BEAD SUTURES IN HARE-LIP.

Mr. Brooke is in the habit of employing at the Westminster Hospital, bead sutures in hare-lip, to prevent the formation of a small notch which sometimes remains, especially when the fissure has extended into the nostril. When we state that their application is upon the principle of the quill suture, it will be readily understood how they are used. On the 13th of April he treated a case of hare-lip in an infant three months old, which was situated to the left of the mesial line, employing pins for the general fissure, but the beads for the floor of the nostril, which were quite successful in bringing the parts in the latter situation in complete apposition. He has employed the bead sutures in cleft palate, and other malformations with equal success.

We may observe that the bead sutures of Mr. Brooke are analogous to the button sutures of Mr.

Wood, of the Gloucester Hospital, and to the shot sutures employed by Drs. Bozeman and Sims.

At the Westminster Hospital, as at King's College Hospital, Hainsby's apparatus is in common use for most of the cases of hare-lip submitted to operation; it consists of a semicircular spring, padded at both extremities, which presses gently upon the cheeks and pushes each towards the seat of fissure, and thus relieves the strain upon the needles or sutures at the site of the operation.

#### TREPHINING THE TIBIA FOR LONG-CONTINUED PAIN.

The use of the trephine as a means of relief in cases wherein long-continued and deep-seated pain exists in some one of the bones—most generally the tibia—is an operation now, we may say, of common occurrence at most of our hospitals. Whatever the actual cause of the pain may be, this proceeding effects a cure in nine cases out of ten. Usually the suspected cause of the pain is a circumscribed abscess in the bone, around which not unfrequently the compact substance is not only of ivory hardness, but is sometimes hypertrophied. An abscess is not, however, always found, but the removal of a piece of bone would seem to relieve the apparent tension in that structure.

At Guy's Hospital on the 26th ultimo, Mr. Cock applied a small trephine to the upper part of the right tibia of a woman, aged thirty-five, who lately entered the hospital for the purpose of having her leg amputated to relieve the extreme suffering which she had endured for three years, originating in a blow upon the shin. A constant deep-seated pain was referable to a particular spot, which could be covered by the tip of the finger. There was no enlargement of the bone, nor periostitis, nor evidence of necrosis, nor pain on pressure over other parts of the tibia. The poor woman was almost worn out with suffering, and had been submitted to every variety of treatment in vain. The trephine came upon the central cavity of the tibia, which contained no sequestrum, nor any abscess. The bone was more compact and seemed to be thicker than natural. Mr. Cock has found the same treatment to answer in other cases, and we have no doubt, when suppuration becomes freely established, the pain in this instance will disappear.

In Lazarus ward of the same hospital is a man, twenty-nine years of age who received a kick from a horse on the right shin eleven years ago, which was followed by inflammation and the formation of an abscess in the bone. He was recently admitted under Mr. Birkett's care. The leg was very much swollen, and there was a small fistula, through which, though barely admitting a fine probe, rough bone could be felt. Mr. Birkett trephined over this spot, one inch below the tubercle, on the 12th ult., and removed a very large, thick, and compact piece of bone,



which exhibited to view the cavity of the original abscess, containing no sequestrum, but lined as usual with a fine velvety membrane. The opening is now filling up with healthy granulations, and a perfect cure will probably result from the course of treatment which has been pursued.

#### PHLEBOLITES AND VARIX.

The occurrence of phlebolites is well known to arise from the degeneration of coagula in varicose veins; they may occupy various situations, and occasionally they co-exist with varix in the same limb. Amongst the great number of cases of enlarged and tortuous veins which come under notice at the various hospitals; it is not unusual to meet with phlebolites. A well-marked instance presented itself on the 20th of April, at University College Hospital, in a woman aged fifty-six years, from Lewisham, who had a varicose ulcer situated at the inner side of her left leg and ankle. The calf of this leg was very extensively affected by varix, which had, however, undergone a partial spontaneous cure, from the fact of a considerable number of the tortuosities being filled by hard, oval substances, of variable size, some being three-quarters of an inch in length, which proved to be vein-stones. Notwithstanding this, however, a number of veins still maintained their diseased condition, and were treated by subcutaneous ligature in three places above the ulcer, as Mr. Erichsen is in the habit of doing. This has been followed by good results up to the present time. The patient has been the subject of the present disease for twenty-eight years, ever since the birth of her first child.

Vein-stones are composed principally of phosphate and carbonate of lime, with some animal matter. Sometimes they cause much inconvenience, and require to be removed. Their usual situation is in the saphena vein, or some of its branches, in connection with varicose enlargement, as in the patient we have just referred to; but the smaller vessels, such as the spermatic, vaginal, uterine, vesical, hæmorrhoidal, and even the splenic, when diseased, generally contain them.

#### TRACHEOTOMY IN DIPHTHERIA.

This operation was performed upon a girl aged seventeen, by Mr. Prescott Hewett a few days back at St. George's Hospital, when she was apparently dying from diphtheria, having been admitted for that disease under the care of Dr. Bence Jones. When the canula was placed in the trachea, singular to relate, no air passed through it; it was therefore withdrawn, and the finger introduced as far as the bifurcation. When the canula was re-inserted, the patient gave a slight cough, and expectorated a distinct cylinder of croupy membrane, which was bifurcated, and possessed the form of the

various ramifications of the larger bronchial tubes. This occurrence gave very marked relief; but the vital powers were already so enfeebled by the disease that she lived but a few hours after the operation. At a post-mortem examination, the minutest ramifications of the bronchial tubes were found filled with lymph.

At St. Bartholomew's Hospital, in January last, tracheotomy was performed at a very urgent moment by Mr. Helme, the house-surgeon, upon a woman, twenty-three years of age, affected with syphilitic laryngitis, under Dr. Hue's care. The patient survived nine days, and died from exhaustion, principally dependent upon secondary hæmorrhage on the second day, which was subsequently followed by profuse secretion of a pneumonic character in the larger bronchial tubes, and extreme difficulty of expectoration. No autopsy was allowed.

We have already placed upon record several cases of syphilitic laryngitis, in which impending suffocation was most effectually relieved by opening the trachea. In Dr. Hue's case the prospects of recovery were doubtful, in consequence of the existence of serious lung disease before the operation.

#### CHRONIC MAMMARY, OR ADENOID TUMOR OF THE BREAST, WITH HEREDITARY TAIN OF CANCER.

Adenoid tumors of the breast are not of very frequent occurrence, and are always interesting to the surgeon or to the pathologist when they come under observation. A case, which was recently operated upon by Mr. Coulson at St. Mary's Hospital, possessed some additional interest from the fact that the mother of the patient, a healthy young woman, aged twenty-two, had, she said, died with cancer of the brain, having at the same time a cancerous tumor of the breast. The tumor which Mr. Coulson removed was hard, of the size of an egg, painless, except on pressure, of slow growth, moveable beneath the skin, and productive at the time of no physical inconvenience. It was submitted to microscopical examination, and determined by this, as to its general physical characters, to be of an adenoid nature. The wound healed very kindly, and the patient made an excellent recovery.

#### SPLITTING UP STRICTURES.

A man, about forty years of age, was sent up from Lancashire by Mr. Moore, and admitted into the Westminster Hospital, under Mr. Holt's care, on the 18th ult., with a very obstinate stricture of the urethra. An instrument could be passed through three strictures, but not into the bladder. On the 19th, Mr. Holt tried to introduce his dilator, using at first a small-sized one; and this he accomplished without much difficulty whilst the patient was under the influence of chloroform, administered by Dr. Anstie. A No. 6 dilating tube was then



passed between the blades of the staff, which split up the stricture for a certain distance. These instruments were withdrawn, and a larger dilator introduced, and a still larger dilating tube. The latter required a considerable amount of force to drive it home, more so than in any case of stricture treated before by the operator, due, as he stated, to there being four strictures. Afterwards a No. 12 catheter was introduced with comparative facility, and the urine was drawn off.

In some observations made by Mr. Holt, he stated that in this case he should not pass another instrument till the third day, then every alternate day, and finally at longer intervals, as is his custom, when he will allow the patient to pass it himself. If neglected twelve months or thereabouts, he said, the stricture is liable to recur, but it is easy to dilate again without splitting. He believes that the material which united the stricture admits of ready dilatation afterwards. In all the cases in which he has used his dilator he has found it successful; and one advantage of the treatment by rupture is that the patient can always introduce the instrument which was passed at the time of the operation. Quinine and fifteen-minim doses of tincture of opium are given, every four hours, for a day, after this last proceeding.

#### RETROVERSION OF THE UTERUS CAUSING RETENTION OF URINE.

A woman, thirty-five years of age, became the subject of enormous distension of the abdomen, which, on examination, had all the characters of ascites—that is to say, there was dulness over the greater part of this cavity, extending high up above the umbilicus, and evidently due to the presence of fluid. A medical practitioner who was called to see her was on the point of performing paracentesis, so urgent were the general symptoms. Fortunately, this was deferred, and the patient was taken to the Westminster Hospital, and admitted under the care of Dr. Basham. On minutely going into the history of the patient, it was elicited that she was three months pregnant; and as a catheter could not be introduced into the bladder, an examination per vaginam clearly showed that retroversion of the gravid uterus was present, which had probably existed for three weeks, as the abdominal swelling had persisted about that time. Urine, to the extent of a few ounces, daily dribbled from the bladder, and the prominence of the distended viscus made the patient feel as if ready to burst. Mr. P. Adair, the house-surgeon, succeeded in pushing back the fundus of the uterus into its natural position, which at once relieved the pressure upon the neck of the bladder by the os and cervix uteri, and upwards of a gallon of urine flowed away spontaneously, without the aid of a catheter. She has since been going on well, and will shortly leave the hospital.

This case is full of interest, from the risk that

the patient ran of being tapped for dropsy. It however, proves the truth of the observation, that in the earlier months of pregnancy, when retroversion of the uterus has taken place, the bladder is most liable to become distended by the os compressing its neck. It is quite clear, from the history of the patient, that the distension of the bladder was consequent upon the displacement of the uterus, and not the cause of it.

#### RETENTION OF URINE TREATED BY MORPHIA AND CARBONATE OF SODA.

A patient, suffering from retention of urine, was recently admitted into the Royal Free Hospital, under Mr. Weeden Cooke's care; and, as often happens in such cases, it was impossible to pass a catheter. Full doses of morphine, with an alkaline carbonate, frequently repeated, had the effect of relieving the over-distended bladder, as related in the following brief notes of the case, furnished by Mr. Nathaniel F. Hall, house-surgeon to the hospital:—

Charles L—, a watchmaker, aged twenty-five, was admitted on the 20th of March, with retention of urine. He was in great pain, the bladder being very much distended. He had been drinking rum and a small quantity of beer the previous night. He has had more or less difficulty in passing urine the past twelve months. An attempt was made to pass a No. 6 catheter, but without success, as upon the introduction of the instrument he immediately fainted. Three drachms of tincture of opium, in half drachm doses, were administered at intervals of half an hour. After each dose, an ineffectual attempt was made by the house-surgeon to pass a catheter. He had an enema containing two drachms of the tincture of opium, and two warm baths, with the same unsatisfactory result. Mr. Weeden Cooke ordered one grain of muriate of morphia, with a drachm of sesquicarbonate of soda, every two hours. In the course of the night, the patient passed about four ounces of urine, and the following afternoon the bladder was fully relieved. He had taken seven grains of morphia, and seven drachms of soda, before sufficient relief could be obtained. He is now doing well and will leave the hospital in a few days.

#### ERYTHEMA NODOSUM.

Within the past few weeks we have noticed that erythema, in some of its forms, has been prevalent in the wards of our hospitals. Most of the cases were of a mild character, and various parts of the body were affected, but especially the face, chest, and limbs. Nearly all the patients were either children or young females. In Faith ward of St. Bartholomew's Hospital, we were shown two females, now convalescent, in whom the disease had existed in its most aggravated form, the symptoms being more severe than Dr. Burrows had witnessed for some time. One was a young woman of nineteen years, who had been ill three weeks before her admission on the 7th inst; intense erythema nodosum was

present on the anterior surfaces of the legs and arms, accompanied by considerable constitutional disturbance. The patches were elevated above the level of the skin, and the legs especially were in a state of tumefaction. When we examined this patient on the 18th inst. all active symptoms had subsided, and nothing remained but a roughness over the cuticle. The other instance was in a married woman, thirty-six years of age, who had been ill four weeks before her admission under Dr. Burrow's care. The same parts of the body—namely, the legs and arms—were affected, and as severely, as in the preceding case. A good recovery, however, has ensued in both, under the use of mild constitutional and local treatment, combined with quinine and other tonics. Erythema is essentially a non-contagious affection; and although febrile symptoms are seldom present, they undoubtedly preceded the erythematous eruption in the two examples we have briefly noticed.

#### TUMOR IN THE PALATINE ARCHES.

At the Hospital for Consumption and Diseases of the Chest, Brompton, a patient, a plumber, aged thirty, applied to Dr. Edward Smith with symptoms of phthisis. He had more cough and dyspnoea than are common at the early stage of the disease, and had a sensation of tightness at the bottom of the throat. His voice was husky, and in the morning he could scarcely speak. He had a sense of obstructed breathing, as if it arose from an abnormal substance in the throat; but he was quite unaware, until after the operation, that any tumor had existed there. On examining the throat, a tumor was seen hanging from the sulcus between the arches on the left side, down into the pharynx, lower than could be seen by depressing the tongue. It was about an inch in length and three-eighths of an inch in diameter, of a pyriform shape, and with a pearly-white, shining aspect. The point of attachment could not be exposed. It was not sensitive when handled, but the throat was moderately injected and was preternaturally sensitive. The tumor was excised by Mr. Ferguson, the consulting surgeon of the hospital, and it yielded a cartilaginous sound on being cut. The removal was followed by immediate relief in the breathing, although whilst the growth remained there was abundant room for the passage of air through the pharynx, and it did not descend so low as the upper aperture of the larynx.

On microscopic examination, the tumor was found to have an extensive layer of tessellated epithelium, which, with a thin layer of supporting tissue, readily peeled off. It was further composed of bundles of white fibrous tissue, inclosing a mass of granulated cells, in size and appearance precisely like the granulated nucleus of the tessellated epithelium. The outer covering contained also fibrous tissue; the central substance, granulated cells.

The interest of the case rests upon its rarity,

and the cough, dyspnoea, and other local symptoms of irritation to which the tumor gave rise.

#### REPRESSION OF ILLEGITIMACY.

Our civilization is fairly open to the reproach of fastidious prudery and excess of delicacy. The kid-glove school of social reformers shrink from handling the unclean sores that affect the body corporate of humanity, and have always preferred that they should be swathed in the manifold bandages of conventional decency, plastered with the old-fashioned unguents of mechanical charity, and left to the care of the providence that guards unseen misery and misfortune. It is not surprising, therefore, that the active advocates of social progress, who come now to rid us of this reproach of a too delicate abstinence from the investigation of such evils, should find that materials are wanting even for the first stage of the inquiry. The great element in any investigation which aims at reform is an accurate estimate of the evil to be reformed. Amongst the defects of our society which most constantly and obtrusively present themselves is illegitimacy; an evil which haunts all our parishes, in town or country; which rears its head in every hamlet, and stains the purity of every village. It lurks in the smiling corn-fields, and in the dark alleys of the crowded town. Amid the Presbyterian population of Scotland, and the Catholic people of Austria, it attains a higher fruition of sin and distress than in any other countries of Europe. In the kingdom of Great Britain some 45,000 illegitimate children are annually born. There are many circumstances of singular and contradictory import connected with the advent of these unfortunates, of whom so many are destined to an early death, from neglect, cold, desertion, starvation and violence. The proportion of illegitimate births was found by the Registrar-General of Scotland to be greatest, not amongst the seats of rapidly advancing population, or in those counties which contain our largest cities with their overcrowded inhabitants, but in those which are purely agricultural. The vastness of the evil, and its surprising excess in some localities when compared with others, might well induce a careful investigation of all that relates to its growth, or may be supposed to favor its extension. Yet Mr. Acton stated last week, in a paper which he read before the Statistical Society, "On Illegitimacy in the London Parishes of St. Marylebone, St. Pancras, St. George, Southwark," that illegitimacy has no literature; and in looking through the lately published catalogue of the Statistical and other Societies, he failed to find mention of the word. Mr. Acton made a very able and useful contribution to the study of this important question by the analysis of the materials existing in these three extensive parishes. Analysing the published figures of the Registrar-General, he showed that in 1857, out of

388 illegitimate children who died, 327 fell before attaining the age of one year; whom 110 perished between the ages of one and three months. Few children died within the first week of birth; hence it may be concluded that they are born healthy, and that the excessive mortality is due to neglect, probably consequent on the destitution of the mother.

Surely this sequence of facts appeals loudly to the charity of the worldly prosperous, that they dismiss the reluctance to assist women who have given birth to illegitimate children, not only out of mercy to their fallen condition, but in pity for the young lives that hang upon them. One hundred and ninety-four mothers were domestic servants; as to the occupation of the fathers, it appears that the largest number are of the class of laborers, where the source of evil to be removed is the promiscuous herding of both sexes, so common among the poorer classes; and next rank domestics, indicating a cause of immorality already sufficiently known.

Mr. Acton indicates striking defects in the bastardy laws, and suggests that parishes should have the same power of recovering the sums expended on illegitimate children as they have now from the fathers of those born in wedlock. To cut off the supply of harlots, he suggests that the demand should be diminished, by making the penalties in purse and person heavier than they now are, as against the father of the child. Hitherto, suggestions have been mainly confined to the regulation of the sources of the supply. Mr. Acton aims at checking the demand. It is a maxim of approved force in economic science, and we see no reason why it should not be brought into play. Let the father be legally liable to the parish for the expense of the accouchement of the woman and the rearing of the child, and let the parish be armed with power to recover the amounts so expended. Of course no profits should accrue to the mother as the wages of her sin; for the term "seducer," so constantly applied to her paramour, is something more than a mere conventionalism—it is very often a falsehood. Such provisions would undoubtedly increase the number of marriages amongst those who have mated irregularly, being equal in rank of life; and they would, we believe, greatly repress the evil discussed. Only let us beware of encouraging the action of Government Boards, such as Mr. Acton suggests; this were an infallible recipe for bringing things to a deadlock.

#### GREAT MORTALITY OF CHILDREN IN RUSSIA.

A Russian journal, the *Rousky Dnevnik*, has lately presented the profession with some important information respecting the mortality of children in Russia, the dislike of the peasantry to vaccination, and the supreme contempt with which the lowest of this class regard the admonitions and the assistance of a medical practitioner.

The Russian peasantry seem generally, in deed, to look upon a doctor with distrust; and in cases of illness they mostly prefer, we are told, the assistance of the village sorcerer. Witchcraft therefore, must be as popular with the poor Slavonians as it would appear to be in the enlightened county of Essex, where it is said\* that we may find two "witch doctors" within hail in a single village, not only well known and in good practice, but subject, in regard to their merits and talent, to a discriminating estimate in public opinion. And, on the other side of England,—“Think!” cries a Somersetshire carrier to his surprised interrogator, when, disdaining veterinary aid, he hies to the wise woman of Somerton about his ailing cattle,—“Think! I do know ut! What d’ye mean to say that a man could have four hosses die in one day without nothing done to ’um?” There’s no more the matter with them hosses than there is wi’ you or I.” The ignorance and superstition of the lower classes in Russia have a most fatal influence upon the management of children, of which the following facts will afford a melancholy example. Last August, small-pox of a very malignant character broke out in several villages of the government of Voronetz, making fearful ravages amongst children of both sexes. The activity of the disease was considerably heightened by the humid climate, the uncleanness of the people, the bad quality and scantiness of food, and the ignorance and negligence of mothers in the treatment of the patients. A physician residing in one of the infected districts found a young child suffering under a severe attack. He offered his assistance to the mother, who, obstinately rejecting it, replied that, “if it were written that her child must die, no doctor could be of any use.” The miserable state of the infant, however, at length caused the woman to yield, and avail herself of that which she at first refused, saying, “Well, you may try to save him, and may God help you!” On being asked why the child had not been vaccinated, the medical man was informed that it had been purposely secreted from the authorities when the latter visited the village for the performance of the operation. Vaccination, the woman observed, was an impious practice, and she should not charge her conscience with the sin of making her child a victim to it. “But,” replied the medical officer, “you could have been compelled to have had your child vaccinated.” At this the woman shook her head sorrowfully, and wept; whilst another, who happened to be present, affirmed that if any medical man were to vaccinate her child she would suck out the matter, or even bite out the piece of flesh, to prevent the “diabolical operation” taking effect.

We very much fear that in some parts of our own island, amongst a very degraded set, much the same opinion is held as to the propriety

\* Recent Cases of Witchcraft, *Westminster Review*, Jan. 1859.

and utility of vaccination as flourishes upon the Northern steppes. Whilst this class, whether Sclave or Kelt, obstinately refuse to listen to the right charmer, "charm he never so wisely," they yield a willing assent to the assertions of credulity and superstition. A pig was said to have been seen one day last summer by the assembled members of a "highly respectable family" regaling itself with fruit in the upper branches of a cherry-tree; whilst, through the malice of an envious neighbor, the wife of a Norfolkshire yeoman was "harassed about night and day, continual worrying like wind "teasing her stomach, and like a sow with all her little pigs a "pulling her to pieces." We all know the axiom of the poet—

"A little knowledge is a dangerous thing;  
Drink deep, or touch not the Pierian spring;"

but perhaps all are not provided with so apt an illustration of it as the following statement of the *Saturday Review* will prove to be:—

"A clergyman not long ago was earnestly pressing upon the attention of a dying Lincolnshire boor certain doctrines which have presented difficulties to cleverer heads under more favorable circumstances. 'Wut wi' faath,' (was the faint response given in the sick man's native Doric,) 'and wut wi' the earth a turning round the sun, and wut wi' the railroads a fuzzin and a whizzin, I'm clean muddled, stoned, and bet;' and so saying he turned to the wall and expired."

The indifference of the Russian peasantry with respect to their children exceeds all belief. They give themselves little or no concern about their offspring. The consequence is that only a very small proportion of the children brought into the world reach maturity. The mortality of children under five years of age is, no doubt, considerable in all countries; but in Russia it attains its acme. Many more than one-half of the infants die in the earliest days of existence. One-eighth die between the ages of five and ten, and another eighth between ten and twenty. Thus three-fourths perish before reaching mature age. Now, where are we to look for the cause of this extreme mortality? It cannot be referred to climate alone; for throughout the whole extent of Russia there is no climate more inimical to health than that of St. Petersburg, and yet in the capital the deaths during infancy are not, as in other parts of the empire, in the proportion of one-half, but only of one-third, to the births. The reason of this favorable result is, that children are more cared for, and their physical development is better attended to, than they are in the provincial governments. Again, a vast portion of infantile premature death in the latter is due to the carelessness of the mothers, who, it is said, continually expose their offspring to fatal accidents.

Amongst ourselves, Manchester appears to stand in an unenviable prominence as a slaughter-house for children. It is calculated that in that city one-half of the children die before they reach the age of five years, whilst in healthy

country districts the mortality of early life is much less. According to Dr. Barker, of 1000 born in agricultural districts, 221 will die under five years of age, showing a mortality less by half than that of Manchester. One-fourth of all the children born in England die before they reach their fifth birthday. The "slaughter of the innocents" has become a modern realization as well as an historic record.

### Reviews and Notices of Books.

*A Treatise upon Penetrating Wounds of the Chest.* By PATRICK FRASER, M.D., Physician to the London Hospital, &c. 8vo, pp. 140. London: Churchill.

In this treatise Dr. Fraser affords the profession the results of his own experience as one of the Civil medical officers in the camp before Sebastopol, as also those which he has derived from the examination of numerous other sources of information. He starts in his task with tables, several compiled by himself, and others from documents in the office of the Director-General, showing the number and results of cases treated from the 1st of April, 1855, to the end of the war, and of the number of deaths from all causes and of the wounded throughout the same period amongst the allied troops. He informs us that, "out of the grand total of wounded (in the British army) throughout the Crimean war, only 164 are returned under the head of actual lung wounds, being 1·35 per cent. of the total number wounded." He states, decidedly, that when the substance of the lung is wounded, recovery is not so frequent as many suppose—an assertion which has a peculiar significance, even in civil practice, as pointing out the immense dangers that are incurred by, and the extreme caution necessary in, the operation of paracentesis thoracis for hydro-thorax. The number of actual lung wounds to the whole being 164, Dr. Fraser shows, by a table at p. 9, that the mortality from the same cause amounted to as many as 130, or nearly five-sixths of the entire number.

In many of the cases in which it has been alleged that recovery from a penetrating wound of the lung had taken place, Dr. Fraser considers that the pleura only had been wounded. He examines into the signs which have been stated to indicate wounds of the lung, and has come to the conclusions: That the non-collapse of the lung is not a proof that it has sustained no injury by a penetrating wound of the chest; yet that after such a wound the lung will sooner or later collapse, unless the inevitable consequences of the wound be happily arrested by treatment, (p. 86.) That the lung in the wounded side of the chest contracts on inspiration, and expands on expiration, (p. 39,) several theories to account for which phenomenon are canvassed in the course of the work. That dyspnoea is a most fallacious

symptom; it may be most intense from moral or other causes when the lung is not wounded, and it may be altogether absent when the lung is seriously implicated. "In all the cases in which it did occur (under the observation of the author) it was not an early symptom, and therefore not available as a means of diagnosis," (p. 51.) That hæmoptysis after a penetrating wound of the chest is no proof that a lung has been wounded. Neither is emphysema, under the same circumstances, a certain sign of lung wound, especially of gun-shot as distinguished from stab wounds of the chest. Pneumonia may be, but it is not of necessity, a consequence of lung wound, (p. 69 *et seq.*) "The effects of traumatic pneumonia are of a congestive nature, generally localized, and not followed by the characteristic exudation of a true inflammatory process, and its frequent sequel, the formation of pus," (p. 71.) Inflammation of the pleura is sometimes the effect of stab or bullet wounds in the chest, but it is not an usual consequence. Tromatopnoea, or the passage of air with a loud gurgling sound through the external wound, is of itself no certain sign of the lung having been wounded. But, says the author,

"Although I would not place implicit reliance on any one of the heretofore accepted signs of lung wound, if there were three or more of them present, I should consider their concurrence as strong presumptive proofs of lung wound. To these add a weak pulse, a cold and clammy skin, and orthopnoea with effusion of blood, now easily diagnosed by aid of percussion and the stethoscope, and the presence of the ecchymosis of blood in the loins (but which I never witnessed, although it is dwelt upon as certain evidence of effusion into the pleural cavity, by Valentin and others); with all these, or the majority, it may be considered as nearly certain that the substance of the lung has been wounded, and the danger imminent."—p. 87.

Dr. Fraser next treats of the complications of lung wounds—namely, traumatic injuries of the heart, mediastinum, diaphragm, œsophagus, trachea, and thoracic duct, and their special symptoms. Under the head of the Treatment of Penetrating Wounds of the Chest, he in more than one place reprobates too much "probing and poking," seeing the lengthened periods during which bullets may remain innocuous in the human body. We recollect that Mr. Dendy, in a little *brochure*, entitled "Wonders of the Human Body," published some years ago, related several striking instances of the tolerance of the frame for large foreign bodies under certain conditions. Other cases have been recorded in the medical journals, and the narratives of all such have important practical bearings. Still, says Dr. Fraser, "It cannot be denied that, *cæteris paribus*, it is advisable to remove the foreign substance, if it were for no other motive than the great peace of mind which this event invariably induces in the patient."—p. 104.

The Local and General Treatment of Penetrating Wounds of the Chest are next consider-

ed. In the former section we find the following passage :—

"If the lung, although unwounded, should have collapsed, the immediate indication will be, to restart it into action before it becomes permanently attached by pleuritic adhesions to the posterior wall of the thorax. This may be attempted by closing the wound as much as possible, and applying emplastrum plumbi, spread upon leather; but a happy consummation is not often granted. The plan appears very well in theory, but in practice is unsuccessful. The air, if it be ever absent, will find admission into the thoracic cavity, and serum or blood will be poured out, inducing the very evil we desire to avoid, and compelling an immediate removal of the plaster to allow the exit of the fluid."—p. 110.

In the latter chapter, Dr. Fraser enters his *caveat* against the practice of venesection in such cases, contrary to the opinion of Stromeier, Guthrie, the Coopers, Sir G. Ballingall, &c. His views on this head are supported by several of the cases which he details, as well as by the almost unanimous voice of the profession, which is less favorable to depletion in disease than was the case in the times of our forefathers. Bleeding, says Dr. Fraser, will not prevent pneumonia, and there is no doubt that the reaction is generally of an asthenic character, (p. 124.) Moreover, he adds, that "so far as the data contained in the treatise will warrant a conclusion, it would appear that pneumonia is very infrequent in wounds of the chest." The following passage occurs at page 138 :—

"I have shown that the surgeon is not often called upon to attempt the arrest of hæmorrhage in lung wounds; inasmuch as, if a large vessel is wounded, death is certain: but if an intercostal or mammary artery is wounded, which seldom happens, then surgical aid is demanded; but the tenaculum, and other similar aids, are not often available. Bleeding, mercurialization, narcotism and depression by antimony and digitalis, the elements of treatment generally recommended, may, under special circumstances, and when guided by sound professional skill, become advisable; but no one or two, or all conjoined, constitute the 'sheet anchor' in the treatment; while a routine or indiscriminate application of them is second only in mischief to the injury itself; because a rigid faith in their necessity leads to a false security, and the consequent neglect of more important measures."

We have now set down enough to give the reader an idea of the contents of a work, produced not by the mere worker in the closet, but by one who has been an actual observer on the battlefield. The treatise was originally written to be read before the Royal Medical and Chirurgical Society, and an abstract of it was published in the "Proceedings" of that body. The work itself will be read with pleasure and, doubtless, advantage by the civil as well as the military surgeon. It is a valuable addition to medical literature.

*Annuaire de la Syphilis et des Maladies de la Peau.* Par P. DIDAY, ex-Chirurgien-en-Chef de l'Hospice de l'Antiquaille à Lyon; et T. ROLLET, Chirurgien-en-Chef de l'Hospice de l'Antiquaille à Lyon. Année, 1858. J. B. Baillière, 1859. pp. 384.

*Annual Retrospect of Syphilis and Skin Diseases for the Year 1858.* By P. DIDAY, formerly Head Surgeon of the Lock Hospital of Lyons; and T. ROLLET, Chief Surgeon to the same Hospital.

We possess in this country half-yearly Retrospects, including the whole range of medical science; and summaries of the same kind are also published quarterly by a cotemporary, separately for each principal subject. Works of this description for medicine, pharmacy, &c., are likewise published every year in France—nay, in that country an annual epitome has for the last two years been offered of every matter of interest in medicine, surgery, &c., published during the year *out* of France; and now we have before us a Retrospect devoted to two subjects of great importance—Syphilis and Skin Diseases.

We are extremely pleased with the spirit of the work, the selections, and the manner in which the subjects have been classified. The spirit of the book is a healthy, courteous, but unsparing criticism. We have here no mere scissors-work, but a close examination of whatever has been published in the year 1858 on the subjects of Syphilis and Skin Diseases. We know at once by perusing this Retrospect how far these branches of medicine and surgery have advanced, and what labor is left for the future. The perusal of the book will amply reward the reader; for in a few hours he will be made acquainted with the state of knowledge in respect to syphilis and skin diseases, and find concentrated, in a limited space, facts and arguments scattered through the British and Continental medical press during a whole twelvemonth. By the side of the cases and theories he will perceive extremely judicious remarks on the same, and an attempt to establish the actual value of the various productions alluded to. The work begins, besides, with original papers of great merit, by the two editors and others, on gonorrhœal rheumatism, injections into the deeper parts of the urethra, the transmission of different kinds of chancres, fungus in syphilitic sarcocœle, the treatment of phagedænic chancre by the actual cautery, general eruptions in vaccination, hypertrophic tumors of the skin, &c. &c.

In the critical review of the productions of the year, we find M. Diday discussing the value of the facts published respecting the transmissibility of secondary symptoms, the quality of the virus, cephalic chancre, and various points of congenital syphilis. M. Diday belongs to Ricord's school, and defends the doctrines of the eminent syphilographer with great skill, though differing from his master on certain points. As to congenital syphilis, M. Diday examines with care, and endeavors to assign their just value to the facts brought forward by Mr.

de Méric; as to syphilitic hepatitis, those published by Dr. Wilks and Dr. Handfield Jones; as to the syphilitic affections of the lachrymal passages, those observed by M. Lagneau, jun. Many other subjects are touched upon, such as syphilitic stricture of the trachea, the co-existence of syphilis, measles, and scarlatina; the causes of chronic urethritis, the treatment of spermatorrhœa by bromide of potassium, blennorrhagic rhinitis, the therapeutic action of turpentine, &c. &c. Several vaunted remedies are brought down to their actual very questionable value; and many facts, too partially viewed by authors, are put in their proper light, the demolishing work being, however, carried on with the most exquisite delicacy of touch.

The review of the novelties produced in skin diseases is from the pen of M. Rollet, who successively brings before the reader the pathology and treatment of tœnia, scabies, malignant pustule, and herpes; the transmissibility of aphthous diseases, &c.

As this is the first number of the annual series promised by the authors, a suggestion or two may be recommended. We find that the title "*Retrospect of Syphilis*" is too restricted, and would gladly see the term *Veneral Diseases* substituted, as gonorrhœa and its complications, though unconnected with syphilis, are largely treated of in the book. It would, perhaps, be also of advantage, next year, to search more minutely the records of Germany and Italy, which do not seem to have been exhausted by the authors: we would especially direct their attention to works from Vienna, and particularly to Hebra and Sigmund. Lastly, we would advise that much less space should be taken up by original contributions, which, in a Retrospect, are perhaps not quite in their place, though, in themselves, possessing considerable value.

*Gooch on Some of the most Important Diseases peculiar to Women; with other Papers.* Prefatory Essay by ROBERT FERGUSON, M. D., &c. 8vo. pp. 235. The New Sydenham Society, London, 1859.

The work of Dr. Gooch is so well known and so highly appreciated by every lover of medical literature, that we need say nothing in its praise. It has been before the world for thirty years, and only one opinion has been expressed upon its merits. We cannot but consider, therefore, that the New Sydenham Society has done well to republish it, more especially as the Council has had the good fortune to persuade Dr. Robert Ferguson to furnish an Introductory Essay on the author's life and writings. This essay is clearly and admirably written; and if we have any fault to find, it is simply that it is too short. We enjoy but seldom the pleasure of reading anything from Dr. Ferguson's pen; and hence when he makes his appearance as an author we are unwilling to part from him.

*Journal de la Physiologie de l'Homme et des Animaux.* Publié sous la direction du Docteur E. BROWN-SÉQUARD. Tome premier, Nos. I. à IV., année 1858. Tome deuxième, No. V., Janvier, 1859. Paris.

Though library tables are now literally smothered by serials, and our cloyed appetites are pampered by seductive novelties from all quarters of the globe and in manifold languages, we have been pleased to tarry longer, and regale ourselves with the present volume more than is our wont with much of the heterogeneous mass it is our duty to look through. We certainly should not have supposed there had been room for another "quarterly" in connection with anatomy and physiology, had we not alighted upon this; but, having done so, we admit that we have been struck with the extreme value of its contents, and with the liberal and really exquisite manner in which its papers are illustrated. It now seems to us that if, by some misfortune, this new publication should cease to appear, we should have to mourn the loss of one of the most important periodical contributions to the sciences of life and organization, instead of thinking its room more to be desired than its company. As yet this serial has scarcely had more than one year of existence, but we believe we may safely assert that it has attained a weight and reputation to which many a much older journal would be glad to lay claim. The four numbers of last year form a first volume of 850 pages. These are composed of upwards of forty original essays by the more distinguished physiologists of France, and by a few of England and America. To these are added several translations of foreign papers, reviews, and bibliographic notices. The volume is enriched by seven admirable plates by Leveillé and Balbiani, and otherwise adorned in the text by numerous woodcuts. We have received also the first portion of the second volume. It contains fourteen original papers and three plates. The journal has a double series of indices for reference—namely, one index of authors with their subjects, and another (a fuller one) of subjects contained in the volume. Whilst strongly recommending this new candidate for scientific patronage to the notice of our readers as being really most worthy of it, we recall their attention to the fact of the *Journal of Physiology* being edited by that physiologist of European reputation, Dr. Brown-Séquard.

From the mine of wealth here stored up, we scarcely know what to select as samples of the purity of the metal, all is so excellent. But, not to be invidious, we may solicit attention to the researches of Dr. Charles Robin. "Upon some points of the Anatomy and the Physiology of the Red Globules of the Blood" p. 283 *et seq.*; to the investigations of Dr. Charles Rouget on "Erectile Organs of the Female and the Tubo-Ovarian Muscular Apparatus, in their relations to Ovulation and the Menstrual Act" (p. 320

*et seq.*); and to the various papers of Dr. Claude Bernard, but particularly to that contained in the last (the 5th) number, and entitled, "Upon a New Function of the Placenta." This same number also includes another very important paper, that of M. Ollier—viz., "Experimental Researches upon the Artificial Production of Bone by means of the Transplantation of Periosteum, and upon the Regeneration of Bone after Resections and entire Ablations." We must not forget also to bestow commendation upon M. Paul Broca's memoir upon "Hybridity in General; the Distinction of Animal Species; and upon the Hybrid obtained through Crossing the Hare with the Rabbit." It would be mere affectation to pass over without notice the labors of the celebrated Editor himself. They are numerous and valuable; from amongst them, however, we may especially select his papers upon the Blood, on the Pons Varolii, and upon Asphyxia.

We sincerely hope that this new periodical, devoted to the most progressive branch of knowledge of the day, will meet with that appreciation and support which it so amply merits, not only of the medical profession of France, but of this country and of the civilized world.

*On the Organs of Vision, their Anatomy and Physiology.* By THOS. NUNNELEY, F.R.C.S., Lecturer on Surgery in the Leeds School of Medicine, Surgeon to the Leeds Eye and Ear Infirmary, &c. London, John Churchill.

Few subjects connected with our profession have been studied with more zeal and success than the minute anatomy and physiology of the eye. Scientific investigators of this country and of the continent have vied with each other in unravelling the ultimate elements and arrangements of this complicated organ, and the success that has attended their labors has been commensurate with the energy, skill, and genius that have been bestowed upon the subject. Many of the most important of these labors are of comparatively recent date, and lie scattered in detached works and papers. It has been the aim of the author to collect into one volume all that is at present known on the subject of the anatomy (human and comparative) of the eye, and of the physiology of vision; to gauge the value of various scientific researches, to bring them to the test of his own investigations, and to present the profession with as complete a work upon this matter as the present state of our knowledge permits. In the space allotted by this journal to reviews, it would of course be impossible to give even a brief outline of the various subjects discussed in a work occupying nearly 400 closely-printed pages. After some preliminary chapters on the organs of sense, on the feelings and ideas ascribed to and derived from the sense of vision, and on the laws of light as far as applicable to



vision, in which many interesting points are very ably discussed, the author proceeds to the subject of the Anatomy of the Eye and its Appendages. Upon this part of his work he has bestowed great pains; he has not only shown an intimate acquaintance with the labors of the more recent and successful investigators, but he has lighted up the dark and doubtful points with his own original researches, and has left them in a more intelligible state than he found them. In proof of this, we would select, as an example, the admirable manner in which the author has unravelled the obscure and contradictory statements put forth by various eminent investigators respecting the "yellow spot," or "punctum centrale retinae." It is impossible to read the author's description of the method he adopted in order to ascertain the true solution of these difficulties, and the satisfactory results at which he arrived, without forming a very favorable opinion of his industry and of his talents for original observation.

In a work that embraces such a wide range of subjects it would be strange if some weak points were not apparent. For example, the remarks upon "*Muscae Volitantes*" are not in harmony with the more recent revelations of the ophthalmoscope; and some important experiments that have been lately made, tending to throw light upon the subject of ocular adjustment, are omitted—a subject which, with this exception, has been elaborately treated.

We cannot conclude this necessarily brief and imperfect notice of Mr. Nunneley's book without again expressing our decided opinion of the talent and research which pervade it. Many abstruse and difficult points are treated in a masterly manner; the plates, some of which are colored, are very accurate and beautiful; and the entire subject of the Anatomy and Physiology of the Organs of Vision is brought before the profession with a clearness and completeness for which we shall in vain seek a parallel either in this country or on the continent.

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*On the Mortality after the Operation of Amputation of the Extremities, and on the Causes of that Mortality.* By ARTHUR ERNEST SANSON. London; Churchill.

The author of this Prize Essay of the Medical Society of King's College, has given an interesting pamphlet upon an important subject. He has collected a large mass of authentic material, and has deduced from it conclusions which are of value. He divides his amputations into the two great classes—amputations for injuries, and amputations for disease; and demonstrates that in the former secondary amputations are more fatal than primary, giving the results of the experience gained in the Crimean war, where 25 per cent. of the men after primary amputations died, and 42 per cent. after the secondary.

Before proceeding to the consideration of the amputations for disease, he discusses the subject of anesthesia as a cause of death; and completely disproves the assertion of Dr. Arnott, that the mortality after amputation has increased since the introduction of chloroform. From the records of the London Medical Society of Observation, he extracts the cases of amputation performed in the London hospitals from the year 1837 to 1841, and satisfactorily proves that the death-rate taking place before the introduction of chloroform or ether was 33 per cent. He then gives the statistics of amputation as performed in the London hospitals during the years 1854, 55, and 56; and from this material shows that the death-rate was only 28 per cent. From the same sources, he proves that the death-rate of amputations for diseased bones and joints, prior to the advent of chloroform, was 33 per cent.; and that the mortality since was 12.9. In cases of thigh amputations, in the former case it was 50 per cent.; in the latter, 16.9. In leg amputations, 29.2 per cent. in the former case; 10.5 in the latter. "This evidence," the author adds, "seems overwhelming. It seems to show not only that chloroform does not exert a baneful influence on patients submitted to amputations but that it exerts an influence to the preservation of life."

The author looks with favor upon the new method of amputation as performed by Mr. Teale, although the statistics of the same as at present published cannot be taken as the absolute expression of the advantage of the operation.

He then discusses briefly the immediate causes of death after the operation of amputation; and his facts tend to support those lately given to us by Mr. Bryant in an elaborate paper upon the subject, lately read before the Medical and Chirurgical Society.

Upon the whole, the pamphlet is a valuable one, and does credit to its author.

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*On Nervous Disorders and Nervousness lapsing into Melancholia and Insanity.* By J. TATAM BANKS, M. D. 12mo. pp. 56. London: Churchill. 1858.

A treatise, which is a very brief one, on nervous disorders, their causes, their symptoms, and the means of their treatment. Amongst the latter is specially mentioned intercourse with healthy minds; and some inquiry naturally follows this indication as to how far the association of the insane with each other in lunatic asylums is calculated to maintain disturbance of the brain. The system adopted in those institutions contrasts widely with that at the colony for the insane at Gheel, in Belgium, where the "lunatic is domiciled in the family of people of his own class, his aberrations are habitually corrected by observation of the conduct, and by the conversation of the sane, and his physical and mental



health are promoted by the air of freedom, and by occupations that have a rational end." The remarks are illustrated by the relation of several cases.

*Reports in Operative Surgery.* Series the Third. By RICHARD G. H. BUTCHER, Esq., Surgeon to Mercer's Hospital, &c. Dublin: McGlashan and Gill.

Mr. Butcher is already well known to the profession as one of the most persevering of conservative surgeons. Not only to his skilful knife, but to his able and prolific pen, the poor sufferer and the student in modern surgery have for several years been deeply indebted. The excellent memoirs of the author upon excision of the knee-joint have secured him an enduring reputation; while various essays which from time to time have appeared in the journals of his own city fully testify to his ability as a practical surgeon of high attainments.

In the little *brochure* before us, the author records, with appropriate observations, various cases in which he has performed excision of diseased joints in preference to amputation, together with other modern operations. The first case is that of removal of the wrist-joint in a man for old-standing disease. Mr. Butcher in performing the operation, contrives to save the tendons of the muscles of the thumb, and leaves undisturbed the enclosing soft tissues, which, besides allowing the integrity of the member to be retrieved, diminishes the chance of sloughing and death. The result in this instance is excellent, and a specimen of the fair handwriting of the patient (lithographed on a spare page) practically attests the capabilities of the new wrist and hand.

A most excellent example of the results to be obtained by the operation of excision, as applied to the knee, is given in the case of a girl aged fifteen, who had suffered from disease of the joint for seven long years. By careful management, a most satisfactory limb was obtained.

Two cases in which the elbow-joint was taken away are interesting in several respects. The treatment of the limbs, however, seems somewhat complicated, although, perhaps, possessing advantages.

Many interested in the progress of surgery will turn with eagerness to the author's remarks upon the operation of Syme and Pirogoff at the ankle. In two instances the proceeding advocated by the former gentleman was resorted to with but indifferent success. In the first case a succession of abscesses caused considerable pain, and prevented the healing of the stump. Five months after the operation the parts still remained tender, and becoming exquisitely painful, the sinuses, which existed were slit up, and a tissue associated with the anterior crural nerve removed. The patient lived a maniac for five years and a half after the first operation; but could never make use of the

stump as a means of progression, as she "invariably complained of pain shooting upwards of a very severe character, which made her desist from any further trials, except when coaxed to do so."—(p. 81.)

In the second case, Pirogoff's operation was intended; but owing to the cut surface of the os calcis being infiltrated with oil and scrofulous deposits, the entire bone was removed, and the proceeding advocated by Mr. Syme adopted. In this case the progress towards healing was interrupted by the formation of abscesses. The patient appears to have had a severe struggle for life; for "the most fearful complications occurred, and there can be no doubt that pyæmia was set up after the establishment of the lymphatic inflammation."—(p. 371.) After the lapse of eight months, matter still came from the stump, and the man was unable then to walk upon it.

A case in which the metatarso-phalangeal articulation of the great toe was removed with success terminates the list of highly interesting and valuable operations, most clearly and honestly recorded. It is much to be regretted that the success and failures of great and useful operations are not more often detailed in this open way. Mr. Butcher has certainly done much to raise the surgery of his country to a high standing, and we trust it may not be long ere we have again to notice the renewed efforts of the author.

The present work is most admirably illustrated, which gives an extra value to the letter-press.

## Foreign Department.

### MEDICATED INJECTIONS THROUGH THE NOSTRILS.

M. Henriette states (in the *Journal de Médecine de Bruxelles*, February, 1859) that he has succeeded in reviving children, dying from exhaustion in typhoid fever, by throwing decoction of bark, wine-and-water, &c., into the nostrils by means of a small syringe. The fluids were readily swallowed, and two children were thus saved. In a third case, the child, sixteen months old, died; it was affected with meningitis, and the fluids safely reached the stomach whilst the patient lay in a comatose state. It is plain that in emergencies the medical attendant will have to choose between these injections and those thrown into the rectum. It seems to us that the former may be followed by the passage of fluids into the windpipe, and that the latter admit of a more free use of stimulating and nutritious injections. The nasal injections should, however, be thought of by practitioners, and may, in appropriate cases, be of service.

## TETANUS TRANSMISSIBLE FROM THE LOWER ANIMALS TO MAN.

The *Gazette Médicale de Lyon* (May 1st, 1859,) publishes the following case, taken from the *Annali Universali* (1859, p. 36): An inhabitant of Campinas (Brazil) had a bull cut, and the animal died tetanic, probably from some defect in the mode of operating. He ordered the bull to be buried, but his slaves ate the meat by stealth. One of them was immediately seized with tetanus, and died in a short time. Two days afterwards another died of the same affection in the hospital, and a third was also admitted, suffering in the same manner, but was likely to recover. Dr. Betoli, who relates these facts, states that he thinks the transmissibility of tetanus from animals to man proved, but not from one human being to another. The same physician has seen tetanus reign epidemically in Brazil.

## POISONOUS EFFECTS OF SALTS OF COPPER WITH ORGANIC BASES.

It is worth noticing that M. Falck has instituted a series of experiments on pigeons to ascertain the effects of the acetate, lactate, butyrate, and malate of copper, in doses varying from one to fifteen grains. Death ensued very rapidly, preceded by vomiting, very abundant blue or green dejections, dyspnoea, cold skin, exhaustion, convulsions, and paralysis of the heart. On opening the animals, M. Falck found inflammation and chemical lesions of the alimentary canal, effusion of blood in the bowels, great vascularity of the intestinal mucous membrane, heart dilated and gorged with dark blood, hyperæmia of the lungs, and scarlet color of the blood contained in them.—*Deutsche Klinik*, 1857 and 1858.

## SPIRIT-RAPPING.

M. Jobert (de Lamballe) presented at a late meeting of the Academy of Sciences of Paris, a girl aged fourteen, affected with spasmodic contractions of the peronæus brevis, which contractions used to give rise to a loud noise. This state of things was rectified by subcutaneous section. This is the secret of spirit-rapping, as was pointed out some time ago by M. Schip. M. Velpeau took occasion to mention several cases of the same kind which had come under his notice. The noise was made in one instance by the tendon of the glutæus maximus behind the great trochanter, and in another by means of the long tendon of the biceps slipping in and out the bicipital groove. He had known a man who, with the tendon of the glutæus maximus, could produce rhythmic sounds. M. Cloquet also mentioned the fact of a girl, who, being a patient in the St. Louis Hospital in 1829, could produce in the abdomen, by moving the spinal column, sounds similar to the ticking of a clock.

## A NEW WAY OF REDUCING PARAPHIMOSIS.

Take a strip of adhesive plaster, half a yard long, and a couple of lines wide; apply the center of this strip to the base of the glans near the corona, leaving about one-fifth of the glans free between the corona and the line of your strip. Perform turns with the latter, and let them be gradually tighter until you get near the meatus, where about one-sixth of the glans is to remain uncovered. The circumference of the glans having thus been considerably diminished, both thumbs are to be placed against the meatus, and the two first fingers of each hand behind and round the prepuce, the ends of the strip being held under the thumbs. By thus exerting gentle force, reduction is soon and easily effected; and the strip may be removed by means of the ends hanging out of the preputial orifice. The plaster should be energetically adhesive, so that it may not slip off.

Such is the mode of operating which M. Van Dommelen, of Nimeguen, has several times put successfully into practice. In perusing this description, one is inclined to ask whether the thickness of the plaster does not render nugatory the diminution of the glans which is obtained by its pressure; and whether driving the blood almost completely out of the glans by holding it between the tips of the thumb and the two first fingers of the right hand, whilst the left is gently guiding the prepuce over it, is not superior to the action of the turns with the adhesive plaster. Still, there is no harm in subjecting M. Van Dommelen's plan to experiment, so as practically to judge of its value.

## TREATMENT OF THE IN-GROWING NAIL OF THE GREAT TOE BY A CAUSTIC APPLICATION.

M. Gouriet, of Niort, France, has revived a mode of operating practised twenty years ago by M. Barbette, of the same city. (*Journ. des Conn. Med. Chir.*, 1839, No. 9.) The manner of proceeding is founded upon the belief that it is advantageous to remove the nail altogether. Short strips of adhesive plaster are placed on one another, so as to form a kind of brim; two such fasciculi are made, and placed a little in front and a little behind the root of the morbidly growing nail. Into the groove thus artificially made, and which just occupies the root of the nail, semi-fluid Vienna paste is put. After a few minutes, a black eschar is formed, properly hemmed and limited by the adhesive plaster. The paste is now quickly taken off, and in a few days the nail comes off, without pain, by the gentlest traction. M. Gouriet mentions several cases which were completely successful, and where, as the matrix was destroyed, the nail did not grow again.—*Gaz. des Hôp.*, May 14th, 1859.

## Medical Annotations.

"No quid nimis."

### CHLOROFORM AND ITS DANGERS.

A paper has been recently addressed to the Academy of Sciences of Paris by Dr. Despies, on "Chloroform as an Anæsthetic," in which he describes what he amusingly calls a method of his own for removing the suspension of the respiratory functions, which is one of its effects. The theory and the method are none other than those commonly accepted and practised here. Suspension of respiration is caused either by the voluntary occlusion of the windpipe while the senses are still awake to the unpleasant character of chloroform vapor; or, in a later stage, by the involuntary occlusion of the glottis from spasm; and, when in the last stage, by its mechanical closure from the tongue falling back: all this we find in our text-books. M. Despies says, "I obviate the suspension of respiration by a method which consists in introducing the index finger into the pharynx down to the base of the epiglottis, bending it in the shape of a hook, and thus raising the base of the tongue, and bringing it forward in the direction of a line supposed to be drawn from the base of the epiglottis to the upper part of the symphysis of the chin." More briefly, he draws the tongue forward, as other people do under the like circumstances. Those who are most accustomed to the administration of chloroform will assent to the statement that the respiration is a guide of at least equal importance with the circulation, and the eye and ear should be alike carefully on the watch to observe the changes from the imperceptible breathing of normal habit to the deep somnolent inspiration of anæsthesia, or the hurried, convulsive, and catching movements which indicate the necessity for greater dilution or withdrawal of the vapor. To free the mouth from saliva, and to draw forward the base of the tongue to which the epiglottis is attached, are amongst the first and easiest indications when the respiration gives note of danger or difficulty.

### FREE-TRADE IN PHYSIC.

A cry has been raised for free-trade in medicine. Let us have free-trade, by all means. Protectionist doctrines are radically false in questions affecting class opinions or class interests. We are content with free trade; but let it not only be free, but fair. When the Medical Act was passed, we found it to be a great merit that it permitted freedom of choice to all men to select their system, and to carry out their wise or foolish fancies to the fullest extent. It is a great mistake, or a wilful misrepresentation, to assert that this Act has in any way injured the free-born privileges of Englishmen to dispose as they list of their individual members. Every man is naturally a

despot over his own organs; he is the tyrant over his solids, and the ruler of his fluids. If it please him, he has the indefeasible right to torment his intestinal tract with gamboge under a "system" of vegetable purgation; to choke himself with antiseptic charcoal, that he may check physiological change; to string himself in galvanic chains; to convulse his tissues with electric shocks; to bring himself to his "coffin" with lobelia or any other variety of lethal herb. Short of suicide, there is no natural limit to the authority of an individual over his own body. It would have been an undoubted act of oppression, therefore, to deny to Englishmen their privilege of being quacked by homœopathist, hydropathist, Morisonian, or Coffinite. We have never asked for such an enactment, nor should we ever demand it. We have asked only that the rogues should be cast out from the camp, and that we should be allowed to strip the Queen's livery from impostors. Not from those from whom we differ in opinion, but from impostors. So long as there is a stamped article and an unstamped one, common morality requires that the distinction be enforced. We are the stamped article. The stamp is understood to mean that we have passed through certain curricula of study, that we have acquired a knowledge of a certain range of facts in the domain of science, and that we have satisfactorily demonstrated a knowledge of, and expressed a belief in, certain doctrines. Then we are not to be confounded with a gang of ignorant and fraudulent quacks, who put forth any plausible deception which is likely to impose upon the credulity of the public, and to serve the ends of ruthless cupidity. Nothing more than such a distinction is aimed at by the Medical Act; and nothing more has been done, in carrying on the prosecutions by that most useful Society, the London Medical Registration Association, than to detect and punish the frauds of some of these criminal impostors.

Perfect free-trade still prevails; several striking proofs of it are now in our hands. The largest development of freedom in physic with which we are acquainted is that of the barrow-herbalists, or "herb-doctors." These represent the lowest link in the chain of free-traders. An inquest held last week by Dr. Challice on the body of a man poisoned by such herbs thus purchased, affords one of three recent instances which have come to our knowledge of the way in which public health is affected by their activity. Here, again, the base of the evil is not freedom, but rascality. If the quacks openly announced themselves quacks, they would be harmless; and if the herbalist had made it known that he was selling herbs dangerous to life, his power for evil would have been limited. But these fellows, whether herbalists, Coffinites, Morisonians, or homœopathists, ask that a complete immunity shall be afforded them for all falsehoods, deceptions, and bad practices whatsoever; and these frauds they baptize free-

trade. They ask, in fact, for an unlimited power to gull and deceive, and that the people shall be delivered up to them for spoliation, under the false cover of alien respectability.

### Miscellaneous Correspondence.

"Audi alteram partem."

#### THE TESTS FOR ARSENIC IN CHLORATE OF POTASH.

[LETTER FROM DR. LETHBY.]

To the Editor of THE LANCET.

SIR,—The recognition of arsenic in a solution of chlorate of potash, is a matter of so much ease and certainty that it ought not to fail in the hands of any one, nor should it be a subject of the least embarrassment or difficulty.

A strong solution of arsenic, as one grain of it in a fluid ounce of a saturated solution of chlorate of potash—that is, a solution containing about six per cent of the chlorate, gives all the characteristic reactions with the common tests for arsenic. Ammoniacal sulphate of copper produces a copious green precipitate; and sulphuretted hydrogen, as well as ammoniacal nitrate of silver, a yellow. Indeed, the latter tests are so delicate in their reactions that they will discover the poison when it exists in no larger proportion than the two-hundredth part of a grain in a fluid ounce of the solution. Besides which, if after the precipitation of the arsenic with sulphuretted hydrogen, the yellow sulphuret is collected and dried, it may be weighed, and so made the means of determining the exact quantity of the poison present; and further, if it be reduced, by heating it in a small tube, with a mixture of carbonate of soda and cyanide of potassium or charcoal, it will furnish a sublimate of metallic arsenic for evidence in a court of law.

Again, a solution of arsenic and chlorate of potash may be thus tested at once by the reduction test. Add to it a small quantity of carbonate of soda, and evaporate to dryness; ignite the residue in a porcelain crucible until the salt is decomposed and its oxygen evolved; that which remains is a mixture of carbonate of soda, chloride of potassium, and arseniate of potash. This may be reduced by heating it with charcoal in a closed tube, and it then furnishes a brilliant sublimate of metallic arsenic.

There is one test which is altogether unsuited for the recognition of arsenic in chlorate of potash—viz., Reinsch's test; for by the action of muriatic acid on the salt at a boiling temperature there is evolved a mixture of chlorine, chloric oxide, and chloride of arsenicum. These gases gradually dissolve the copper which is used in the test; and if copper be added until the chlorine and chloric oxide are exhausted, there is the danger, on the one hand, of losing the arsenic which ought to be found, and, on the other,

there is the still greater danger of furnishing arsenic with the materials employed in the process; for both copper and muriatic acid are often charged with this metal. Besides which, the process is wholly incapable of furnishing an estimate of the quantity of arsenic present, and therefore the operator is compelled to guess at the proportion.

When, in the year 1844, Drs. Fresenius and Babo suggested the use of chlorate of potash and muriatic acid for the analysis of organic matter containing arsenic, two prime objections were raised to it; first, that both of the reagents might contain the poison; and, secondly, that the chlorine and chloric oxide evolved carried with them a large portion of arsenic in the form of a volatile chloride. The process, therefore, never came into use; and the objection to it shows its inapplicability to the present case.

I am, Sir, yours obediently,  
HY. LETHBY, M.B., PH.D., &c.

London Hospital Laboratory, May 24, 1869.

#### SPONTANEOUS CURE OF HYDROCEPHALUS.

To the Editor of THE LANCET.

SIR,—I was called to see A. B—, aged ten months, I found the child in an apparently dying state from hydrocephalus after scarlet fever. I applied mustard poultices to the legs, and gave the usual remedies, and on the following day applied a blister behind each ear, which were kept on for two or three hours; the one on the right side sloughed a little. The fluid within the cranium passed out through the anterior fontanelle, found its way into the cellular tissue, and escaped by the ulcerated part behind the ear to the extent of some ounces. The patient perfectly recovered.

From this case a suggestion arises in my mind, if in a similar case it be beneficial to produce a slough in the neighborhood of the anterior or posterior fontanelle, or to have recourse to subcutaneous tapping through the fontanelle or other convenient part, by means of a curved trocar and canula, or other instrument; the external opening being some two or three inches from the internal puncture, the fluid being drawn off by the canula, or allowed to find its way into the cellular tissue, and escape by the external opening. Of course there would be a risk of erysipelas, but it would be exchanging a greater evil for a less.

Yours, &c., G. B.

May, 1869.

#### CASE OF ARM PRESENTATION, TERMINATED BY SPONTANEOUS EXPULSION.

To the Editor of THE LANCET.

SIR,—The following case has recently occurred in my practice:—

On the 14th of April, at six a.m., I was called to a woman in labor with her fifth child. A midwife was in attendance, who informed me

that the child's arm was hanging out of the vagina. The woman had been suffering from slight pains ever since the previous Monday. The liquor amnii escaped on that day, but she had not applied for any relief, considering the pains too trifling. Upon examination, I found the arm of a fœtus protruding from the vagina, very much swollen and livid; the pains strong and regular, and had been so from three A.M. Having administered a full dose of tincture of opium, I introduced my hand into the vagina, with the intention of turning, but could not succeed in passing it into the uterus, as that organ was very firmly contracted on the child. I therefore waited to ascertain the effects of the pains; and in the course of half an hour the arm was protruded further, and the side of the chest came down, distending the perinæum; the breech and the legs soon followed, thus becoming a footling presentation; the head was easily expelled. The fœtus was full grown, but dead and putrid. The patient recovered.

THOMAS E. EVERSLED, M.R.C.S. & L.S.A.

Billinghurst, May, 1859.

#### ON THE POISON OF THE COMMON ADDER.

[LETTER FROM PHILIP WESTON, ESQ.]

To the Editor of THE LANCET.

Sir,—The following narrative of the very severe effects produced on myself by the bite of the common adder or viper of this country (*Coluber berus*), may not prove uninteresting to some of your readers.

To many the extreme severity of the symptoms may appear almost incredible, but the essential facts of the case can be corroborated by C. H. Holman, Esq., of Niton, to whose professional care and assiduity I am greatly indebted. The accident occurred whilst on a visit to Sandrock, Isle of Wight, for the benefit of my health.

On August 19th, 1858, about midday, whilst out walking, accompanied by my wife and little boy, in search of botanical and entomological specimens, I came upon a large, nearly black snake, which, from its size and color, I took to be one of the common harmless species. I seized it by the tail, held it up to show my companions, and was instantly bitten in the last joint of the forefinger of the right hand. Finding the mistake I had made, I bound my handkerchief tightly round the base of the finger, and commenced forcibly sucking the poison from the wounds. Very little blood flowed, but the pain was acute. Thinking I had done all that was necessary to arrest the absorption of the poison, we turned our attention to catching, killing, and leisurely examining the mechanism of the poison teeth of the reptile. In about ten to fifteen minutes after the bite, the finger became swollen and painful; a sense of numbness and rigidity gradually extended up the hand and arm, succeeded by giddiness and confusion in the

head, with an acrid burning sensation in the lips, mouth, and throat. I told my wife I wished to get home as quickly as possible; but before we had accomplished half the distance (about half a mile) the power of locomotion began to fail me, my speech became thick and inarticulate, the giddiness increased to loss of vision, violent retching came on, and I was led, or rather dragged, like a drunken man staggering home. About half an hour had now elapsed from the occurrence of the injury.

By the time we had reached our destination, all the previous symptoms were greatly increased in intensity; the lips and tongue were livid, swollen, and protruding; the mouth and throat so parched and swollen, that to swallow any liquid was impossible. I made one or two ineffectual efforts to take a little brandy. The pain at the pit of the stomach and in the bowels was excruciating, and was accompanied with severe cramps in the lower extremities, profuse cold clammy perspirations, faintness, and extreme prostration. I felt as if I were dying, and was quite unable to direct those around me what to do until the arrival of the nearest medical man, who was unfortunately from home at the time of the message. Incessant vomiting continued, of a viscid greenish fluid, in color and taste like inspissated bile, followed by a severe attack of bilious diarrhoea, about two hours after the bite, which greatly relieved my sufferings, and I was then able to take repeated draughts of sal volatile in soda water.

Towards evening the hand and arm became painfully inflamed and swollen to three or four times their natural size. Spots of purpura hæmorrhagica appeared the next day in various parts of the body and limbs. The inflammation, which was of an erysipelatous character, gradually spread from the arm to the shoulder, integuments of the neck, chest, abdomen, and back, on the right side, as low down as the hip. For three or four nights I suffered much from sleeplessness, thirst, and exhaustion, requiring the frequent administration of wine with soda water, and strong beef-tea. The bright-red hue of the skin began to fade after the fourth day, and leaving it of a mottled livid color, with patches of ecchymosis. The œdema of the limb, which was very considerable, was much relieved by puncturing with a lancet. At the end of a week I was able to leave my bed, but the hand and arm were quite useless, and did not recover their former powers until six or eight weeks after the accident; the right leg also remained weak for some time, causing me to drag it in walking. I returned home at the expiration of a fortnight; but very soon afterwards, collections of matter formed successively in the hand, forearm, and axilla, requiring evacuation by the lancet.

Immediate treatment of the injury there may be said to have been none; some valuable time from the accident being thought lightly of, and happening at a distance from the village. The

medical practitioner did not arrive for two hours after the occurrence, and I was totally incapable of giving any directions as to remedies. Subsequently I took salines, with excess of ammonia, by day; blue-pill, with hyoscymus, at night. The local treatment consisted of leeches, evaporating lotions, and subsequently flour; the last afforded me most relief. The extension of the erysipelas was finally effectually arrested by full doses of the sesquichloride of iron in camphor mixture. At a later period, I derived much benefit from arsenic, Fowler's solution, five minims, three times a day. For numbness lividity, and ecchymosis, I used with advantage a liniment composed of equal parts of tincture of arnica and glycerine.

A retrospect of the symptoms, as they successively presented themselves in my own case, would induce me to have recourse to the following remedial measures if summoned early to an injury from the bite of a poisonous reptile:—

- 1st. The application of a ligature round the limb close to the wound, between it and the heart, to arrest the return of venous blood.

- 2nd. Excision of the bitten parts, or free incision through the wounds made by the poison-teeth, subsequently encouraging the bleeding by warm solutions to favor the escape of the poison from the circulation.

- 3rd. Cauterization widely round the limb of the bite, with a strong solution of nitrate of silver, one drachm to the ounce, to prevent the introduction of the poison into the system by the lymphatics.

- 4th. As soon as indications of the absorption of the poison into the circulation began to manifest themselves, the internal administration of ammonia in aerated or soda water, every quarter of an hour, to support the nervous energy and allay the distressing thirst.

But there is yet wanting some remedy that shall rapidly counteract the poison introduced into the blood, and assist in expelling it from the system. The well authenticated accounts of the success attending the internal use of arsenic in injuries arising from the bites of venomous reptiles in the East and West Indies, and also in Africa, the successful treatment by arsenic of several cases of malignant or Asiatic cholera, communicated by Dr. Black, of Chesterfield, and the well known properties of this medicine as a powerful tonic and alterative in conditions of impaired vitality of the blood arising from the absorption of certain blood poisons, would lead me to include this agent in the treatment already mentioned. It should be administered, in combination with ammonia, in full doses, frequently repeated, so as to neutralize quickly the poison circulating in the blood before it can be eliminated from the system. This could readily be accomplished by adding ten to fifteen minims of Fowler's solution of the compound spirit of ammonia (two preparations generally at hand), to be given every quarter of an hour, in aerated or soda water, until the vom-

iting and the more urgent symptoms of collapse have subsided, subsequently repeating the dose at longer intervals until reaction had become fully established, and the patient relieved by copious bilious dejections.

I am, Sir, your obedient servant,  
**PHILIP WESTON, M.R.C.S.**  
 Shirley, Southampton, 1859.

#### NEW EYE INSTRUMENT.

*To the Editor of THE LANCET.*

SIR,—Will you permit me to call the attention of those interested in the treatment of diseases of the eye to a little instrument which I have found very useful in applying drops to the conjunctive. It consists of a glass tube, three inches long,  $\frac{1}{4}$ -inch bore, and the ends fused to take off the sharp edges. Attached to one end is a flat india-rubber bulb, by compressing which, and dipping the free end of the tube into the solution, the tube is filled; and by again compressing the bulb, the drop is thrown into the eye.

The advantages, I believe, to be enjoyed by this instrument over the scoop or brush are—1st, its greater cleanliness; 2nd, the power of exactly adjusting the quantity of drop wished to be used; and 3d, the retaining the drop in the tube without danger of its being thrown over the child's clothes or your own, if treating one resenting the application of the remedy.

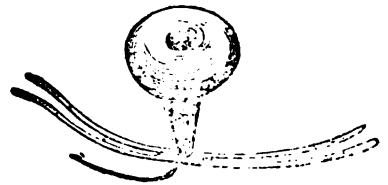
The tubes and bulbs may be obtained of Messrs. Baker, Holborn.

I am, Sir, your obedient servant,  
**J. CHARLES SAVERY, M.R.C.S.,**  
 Surgeon to the Hastings Dispensary.

Marina, St. Leonards, May, 1859.

#### NEW INVENTIONS IN THE AID OF THE PRACTICE OF MEDICINE AND SURGERY.

##### MR. BOURJEAURD'S PATENT MUSHROOM PESSARY.



This new pessary is calculated to give support to the prolapsed uterus without creating any irritation of the cervix or vagina, and to allow the escape of fluids. Its construction is such that when fully inflated it resembles a mushroom, the dome of which receives the cervix in a depression. The elasticity of the dome—which is, according to the circumstances of the case, more or less filled with air—affords the cervix a yielding and yet sufficiently resisting support, whilst the stalk prevents any inefficiency of the apparatus. Both dome and stalk

present a cylindrical canal, which is intended to prevent any accumulation of the normal or abnormal discharges. By means of a tube and reservoir of air, the pessary may be rendered more or less distended after its introduction into the vagina; and the introduction is rendered extremely easy by the small size of the pessary when not inflated. The whole apparatus is of exquisitely smooth indiarubber, and secured upon the patient by elastic bands, which are easily adapted to a light, narrow belt running round the lower part of the abdomen. This pessary seems to answer every end desired in the construction of such instruments, and to be free from the objections which are urged against many of those which have for some time been before the profession.

### News Items, Medical Facts, &c.

**CANCER HOSPITAL.**—The ceremony of laying the foundation-stone of the new Hospital for Cancer at Brompton, nearly opposite the Consumption Hospital, was performed on Monday afternoon by Miss Burdett Coutts, in the presence of a very numerous company, including the Bishop of London, the Ven. Archdeacon Sinclair and several other clergymen and medical gentlemen. At Brompton, where a house has during the last six years been devoted to the reception of in-door patients, 803 afflicted persons have been received, and treated with all the advantages which a generous dietary, good nursing, and medical skill can give. The house, however, could not be made to afford that which is essential in all disease, and most especially to one so obnoxious as this—viz., pure air. A site for a new hospital has therefore been purchased by the trustees of the charity, with a view of ultimately accommodating 300 patients. The building is to consist of a central compartment (capable of holding 60 patients) with wings, but it is the central portion only that will for the present be proceeded with. The building when complete, will present a frontage of 130 feet to the Fulham-road, and a depth of 50 feet, surrounded by an area of 10 feet, securing to the building the means of convenient external communication and ventilation. The building will be constructed of plain white Suffolk bricks, with a sparing use of stone dressings. There will be also bands of red bricks with keystone, and cornices, to give the hospital an architectural feature, and destroy the monotony of a flat surface. The lower story will be 10 feet high, and contain the usual domestic offices, while the principal or ground floor will be 14 feet in height. This will be approached by a flight of steps, and contain the hall and staircase, with the clerks' and secretary's offices, apartments for the medical officers, and a ward for patients, 41 feet by 20 feet. On the first story there are to be three wards, 41 feet by 20 feet,

with rooms for the matron, nurses, &c. These will communicate with staircases and corridors, the whole of which, throughout the building, will be of stone. An additional story in the central portion of the building will also afford further accommodation for patients. The building is to be erected from the design of Mr. John Young, jun., by Messrs. Laurence, at a cost of about £7000. Miss Coutts, with the Bishop of London, arrived on the ground shortly after four o'clock, when the proceedings were commenced with prayer by the Rev. Thomas Pearson, M. A. The Bishop of London then addressed the company, and said they were met to lay the foundation-stone of a most excellent institution, destined to bestow inestimable blessings on a large portion of the community, and they could not do so without invoking the blessing of the Almighty on their proceedings. They were about to erect a house for the reception of persons afflicted with a most painful disease, demanding the greatest sympathy from all the friends of humanity. It had been truly said that hospitals were christian institutions of the greatest importance, and every addition made to those institutions was a further step toward lessening the affliction of their fellow-creatures and advancing the glory of their Creator. Miss Coutts having deposited the bottle in a cavity in the lower stone and spread the mortar, the upper stone was duly lowered into its place, after which Miss Coutts gave the customary knocks and declared the stone duly laid. The Rev. J. B. Owen next addressed the assembly, after which Mr. J. Abel Smith proposed thanks to Miss Coutts for having done them the honor of laying the foundation-stone of the hospital. The Bishop of London said that he had been requested by Miss Coutts to acknowledge the compliment just paid her, and to assure them that she should now continue to take the greatest interest in the prosperity of the institution. The blessings of God was again asked on the undertaking, and the company separated.

**SOLUBILITY OF ALKALOIDS IN CHLOROFORM.**—This property of the alkaloids, which is one of great importance in a medico-legal point of view, as facilitating toxicological research, has been the subject of further experiments by the eminent chemist, Pettenkofer. He states that 100 parts of chloroform will dissolve 0.57 of morphine, 31.17 of narcotine, 4.31 of cinchonine, 57.47 of quinine, 20.19 of strychnine, 56.70 of brucine, 51.19 of atropine, and 58.49 of veratrine.

**THE PSYCHIATRIC PHYSICIANS OF THE HOSPITALS OF PARIS.**—The physicians and surgeons of the hospitals of Paris are expected to retire at the age of sixty-five: an exception has lately been introduced in favor of the those attached to the hospitals for the insane; these physicians may now hold office up to their seventieth year.



**MISS FLORENCE NIGHTINGALE.**—We regret to learn that it is reported that the health of this estimable lady is in a most precarious state.

**THE ACTIVE PRINCIPLE OF CAMOMILE.**—M. Pattone has recently investigated the constitution of camomile (*anthemis nobilis*), and he reports the discovery of an alkaloid and organic acid. The extract of the plant being treated with boiling alcohol, the insoluble residue is macerated in boiling distilled water, which is filtered, and, when cool, treated with ammonia. The new substance, which M. Pattone calls *anthemine*, soon appears in fine prismatic crystals; the acid is obtained from the alcoholic solution previously made.

**SMALL FEET IN PERU.**—" *L'Union Medicale* " states that the ladies of Lima are noted for their extremely small feet, the secret being, that infants of the female sex undergo, as a rule, amputation of the little toe of each foot. So general is the custom, that many women think that five toes on each foot is a state of things peculiar to the male sex. It is said that a Peruvian surgeon is coming over to London and Paris, where he expects to make a fine harvest. He warrants to ladies the tiniest and most graceful foot by means of the above named amputation, and confinement to the house of only one week. The writer in *L'Union Medicale* adds, that a custom of this kind prevailed pretty generally in Paris some years ago, kept up by the very reprehensible complaisance of a surgeon, who had acquired some celebrity touching this silly mutilation.

**SURGEONS FOR THE SARDINIAN ARMY.**—Surgeons will at once be admitted into the Sardinian service who have a diploma from an Italian university, are less than thirty, and are fit for duty. Those who have served in the Crimea will be received as surgeons for the duration of the war, if able to support the fatigues of campaigning. The pay to be the same as that of the ordinary military medical officers, besides £16 as entrance money, £16 for outfit; six months paid in advance. Surgeons are also promised the privilege of retaining the *honorary* title after the war; the *actual* rank to be kept by those only who have introduced improvements, or who shall have distinguished themselves.

**SPONTANEOUS GENERATION.**—French physiologists, and especially those who are members of the Academy of Science of Paris, have been lately bringing forward arguments to support the belief that spontaneous generation has no existence. Many of our readers will perhaps, be surprised that any trouble should have been taken to defend so universally-received an opinion; but such exertions have become necessary, as the experiments of M. Pouchet, lately brought before the Academy, have been apparently almost conclusive in proving the existence of spontaneous generation. We shall enter into a few particulars respecting this controversy when it has been brought to a close; but we may now mention that M. Pouchet maintains that what many physiologists look upon as ova of infusoria, are particles of fecula. Nor does M. Pouchet believe that rotifera can bear a very high temperature after having been previously dried, and be resuscitated by the action of moisture. The phenomenon is, according to him, deceptive, and due to simple edemose.

**A CURE FOR STERILITY.**—The "*España Medica*," quoted by *L'Union Medicale*, states that a very disgusting advertisement is frequently seen in a Madrid newspaper, so disgusting that the editor of the "*España Medica*" translates it into Latin for the sake of propriety: "*Pallidis puellis quarum valetudo nondum florescit, laborante menstruo, illis quæ frustra hactenus cupiebant gravidas fieri, hic est remedium quod ab externa regione secum producit juvenis viator. Facile, simplex, naturale, datur secreta.*" The authorities must be very lax in their duties, when such obscene advertisements are allowed to appear.

**AUXILIARY SURGEONS FOR THE FRENCH NAVY.**—The appeal made by the French Government to students of medicine to enter the navy as auxiliary surgeons has been responded to by no less than 200 students of the faculty of medicine of Paris alone.

We learn that the Medical Society of Loir et Cher (a department of France) have laid a complaint before the courts of justice against Vriès for illegal practice. The society have taken this step to save the medical practitioners of Paris from the reproach of interested motives.







*Yours Faithfully*

*W Burnet*

# THE LANCET.

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No. 2.

## PRACTICAL CLINICAL REMARKS,

DELIVERED AT THE ROYAL INFIRMARY OF GLASGOW.\*

BY EBEN WATSON, M. D.,

LECTURER ON PHYSIOLOGY IN ANDERSON'S UNIVERSITY, AND SURGEON TO  
THE ABOVE INFIRMARY.

### ON PIROGOFF'S OPERATION.

James M'G——, aged fourteen, was admitted into the Royal Infirmary on the 28th of August, 1858. About one o'clock on that afternoon he had been engaged in cleaning machinery, when the wheels were set in motion so suddenly that his left foot was caught between two of them, and severely bruised and lacerated. The pulse, on admission, was 94 in the minute, and full. There was no hæmorrhage.

At half-past four P. M. I first saw the patient, a consultation of the surgeons having been called at that hour. On examining the injured foot, I found the skin torn from the subjacent muscles and tendons, and lacerated extensively over the whole of the foot anterior to the malleoli. All the soft parts beneath the skin were likewise bruised and lacerated. Several of the metatarsal bones were fractured, and even the anterior row of tarsal bones were stripped bare, and separated from each other and from the articular extremities of the metatarsal bones. In fact, the whole foot, with the exception of the heel, was completely "smashed," as it is familiarly but expressively denominated.

There could be no difference of opinion as to the propriety of amputation in such a case. The only question was where it should be performed. The parts were much too severely and extensively injured to admit of Copart's amputation

through the tarsus being practised with any hope of success. I might have performed Mr. Syme's amputation through the ankle-joint; but, from the shattered state of the foot, the dissection of the heel-flap would, I think, have been difficult. It seemed to me that this was a favorable case for performing the amputation recommended by M. Pirogoff; for the skin and bone of the heel seemed to have been uninjured, while no other portion of the foot was in a condition to be saved. My colleagues agreed with me in this opinion, and therefore, the patient having been put under chloroform, I proceeded with the operation as follows:—

With a strait, pointed, and strong bistoury I divided all the tissues down to the os calcis, from a few lines in front of the inner malleolus, to the same point on the outside of the ankle, and I connected the extremities of this incision by another across the front of the ankle. I then opened the joint, and cut the lateral ligaments carefully, especially the inner one, keeping close to the bone, that I might not injure the posterior tibial artery. I next sawed through the os calcis, from above downwards, close to the posterior margin of the astragalus; and, having cleared the articular ends of the tibia and fibula, I sawed off a thin film of bone from them, of course taking away with it the two malleoli. Some of the tendons that had escaped the knife were now shortened, and then the plantar arteries and the anterior tibial were tied. I now found that when I brought up the cut surface of the heel bone to the cut surface of the tibia and fibula, they were easily placed in exact apposition, and were as easily retained there by three silver sutures in the front of the stump, bringing the ligatures out by the sides of the wound, which were left open, so as to admit of a free discharge. The stump was surrounded by wet lint enveloped in oiled-silk paper, and, when the boy had been replaced in bed, it was laid on a pillow. After recovering from the

\* These remarks were made to the students of the Royal Infirmary at two different times, when the cases referred to in them were made the subjects of clinical teaching. They were also, in substance, redelivered as a communication to the Medico-Chirurgical Society of Glasgow, on the 12th of April, when both patients were presented to the Society. This accounts for the difference in the style of some passages, which I have not thought it worth while, as it certainly would not have been easy, to change without completely re-writing.

chloroform, he took twenty drops of laudanum, and slept pretty well during the night. For a few days he was feverish, and required low diet, laxatives, and even an antimonial mixture; but this passed off when suppuration became established in the wound. His health was at no other time affected during his stay in the hospital.

Locally, the treatment consisted in having the leg bandaged pretty firmly in a hollow posterior splint of pasteboard padded with cotton, and cut away at each side of the heel, so as to allow the discharge to run away freely. The wound was kept clean by changing the dressings every day, but the splint was only changed on the second, third, or fourth day as it seemed to require. The ligatures came away on the sixth or seventh day after the operation, but the sutures were allowed to remain in twice as long. On their being removed, a strip of plaster was placed so as to keep the wound together, but I do not think it was either very effective or very necessary, and it was soon dispensed with. The posterior splint, and a turn of bandage brought round the point of the stump as well as laterally, were, I think, the means of keeping the parts in due apposition during the healing process. Water dressings at first, and afterwards lint dipped in olive oil, were the only other applications used.

About three weeks after the operation, a small abscess formed above the inner ankle. It was freely opened, and healed readily. The original wound, too, had united healthily by the beginning of October, and the boy was then allowed to walk about on crutches, still, however, wearing the splint for the sake of greater security against injury to the stump. About the same time I observed that the calcis had become united to the tibia and fibula, so as to be nearly immovable. I did not, however, allow this to be very severely tested.

On the 17th of December, I showed this boy to the clinical class at the Royal Infirmary. He could then walk with perfect freedom on the stump, and without any lameness. As he stood before the class there was no apparent deformity, but when the limbs were compared from the knees downwards, the left (or one operated on) was about half an inch shorter than the other. The stump was as perfect as can be imagined. It was difficult to make out the cicatrix in front. There was complete osseous union between the bones involved in the operation, so that they formed an united support for the body; and the skin of the heel, tough, strong, and smooth, formed a very hardy covering for its extremity.

In regard to the performance of Pirogoff's operation, I would offer two remarks:—

1st. It is much easier to avoid cutting the posterior tibial artery behind the inner malleolus in this operation than in that proposed by Mr. Syme. For every one who has performed the latter knows that he is not the least likely

to cut the artery so long as he is attending to it—viz., while he is separating it from its attachments. It is when he is doing something else, and especially when he is dissecting back the skin of the heel, that his knife is apt to slip upon the vessel before he is aware. Now, in Pirogoff's operation, after the artery has been detached along with the skin below the inner malleolus, the operator cuts no more in that direction at all. He has only to cut the internal lateral ligament of the ankle-joint, keeping his knife close to and parallel with the astragalus, and then to use the saw; the soft parts being held back for him by his assistant, by means of a blunt hook or with his fingers.

2nd. M. Pirogoff, in his memoir describing his new operation, writes as follows:—"I separate the short anterior flap from the two malleoli, and saw through them at the same time close to their base." And again: "I turn this flap (the posterior) forwards, and bring the cut surface of the os calcis *in apposition* with the *articular surface* of the tibia. *If the latter be diseased*, it is sometimes necessary also to saw off from it a thin slice with the malleoli."

I wish to draw your attention particularly to these directions, because I venture to differ from M. Pirogoff in regard to them. I even think that the unfortunate issue of some of his cases may be attributed to his following that plan of operating. In my opinion, you ought always to saw off the articular extremities of the bones of the leg; for then you have a clean surface of cancellar bone on either hand—viz., at the anterior part of the os calcis, and at the inferior extremities of the tibia and fibula. Such surfaces are the best adapted for speedy osseous union; whereas, if the articular surface of the tibia is left untouched, as I understand M. Pirogoff recommends to be always done when it is not diseased, the synovial membrane and cartilage must inflame and suppurate, and be partly absorbed, partly discharged, before osseous union can take place between the tibia and calcaneum. The position of matters is very different when soft parts are to be applied to the surface of a joint, as in amputation through the wrist-joint, which you saw me perform about three weeks ago, and which has healed without one of those untoward circumstances that used to be dreaded by surgeons in such cases. If, however, the operation of M. Pirogoff be performed without excising the articular surface of the tibia, we should have a state of matters more analogous to the excision of one surface of a joint, which few surgeons would recommend. The bringing up of the os calcis, and not a soft flap, upon the articular surface of the tibia makes the greatest differences in the processes pursued by nature before healing is permitted. In the one case it is generally simple adhesive inflammation; in the other, it is, as I have stated above, a more lengthened and complicated,

\* I quote from the *Medical Gazette* of March 20th, 1858. I have not seen the original.

and therefore more dangerous, process. Hence it is that I should recommend the surgeon in all cases to saw off a thin layer of the articular surface of the tibia along with both malleoli, before he brings up his posterior flap.

But if this is to be done, it may be asked, why disarticulate at all? In thinking of this question, I planned the following procedure, which, I think, will be found easier than M. Pirogoff's. The leg is placed on its side, the operator holding the front part of the foot to be amputated in his left hand. He then makes an incision with a bistoury across the sole of the foot, from the tip of the one malleolus to that of the other, carrying it right down to the os calcis. He then applies the serrated edge of a small amputating saw in the wound so as to divide the os calcis at such an angle as will enable him to avoid touching the malleoli. The assistant ought to steady the os calcis by grasping the heel between his finger and thumb, while the operator is using the saw. The latter then resumes his knife, and placing it between the divided surfaces of the bone, cuts a little upwards, till he gets fairly behind the upper portion of the ankle-joint. The posterior flap is now formed, and should be turned upwards on the back of the leg by the assistant, so as to keep it out of the way. The knife should next be carried in a circular manner round the anterior aspect of the joint, dividing the skin in such a way as to unite the points of the former incision by this transverse one in front. The skin in front should then be pulled up a little, and the tendons and other structures should be divided down to the tibia and fibula, just above the ankle-joint. Lastly, these bones are sawn through in a slanting manner, by directing the saw from before backwards and downwards. The posterior flap is now brought up, and it will be found that the cut surfaces of the tibia and fibula on the one hand, and of the os calcis on the other, will fit each other exactly. The skin in front is united by wire sutures, and the operation is finished.

I am not at all anxious to claim originality in regard to this modification. My aim is not to rob M. Pirogoff of any share of that honor which is justly his due, but to assist in perfecting and establishing his operation amongst the resources of surgery. Nor am I singular in thinking that the operation, as proposed by him, admits of improvement. Many surgeons in this country and on the Continent have suggested variations in its performance, and I only ask that the above method of operating, *without disarticulating*, which is its sole distinctive feature, may be carefully considered, as I have no doubt the other proposals have been.

I may remark that I do not think the slant-cutting of the os calcis an improvement in itself, though it has been proposed by M. Sédillot so long ago as 1855, and again by Mr. Busk, of the Seamen's Hospital, in 1858. I have merely adopted it in my modification for the purpose of avoiding collision with the malleoli in sawing

through the os calcis; but I believe that the less slanting the longer will be the limb, and the greater the ease of keeping the ends of the bone in apposition.

The method which I have proposed occupies less time than that of M. Pirogoff; the risk to the posterior tibial artery in disarticulating the foot, and the trouble of the additional dissection are avoided, while an equally good stump is made in the end. Besides, it will be found that, in performing M. Pirogoff's operation for some injuries of the foot, in which the greater part of it has been destroyed or lacerated, one of the surgeon's chief difficulties will be, the want of purchase in steadying the foot while he is sawing through the calcaneum after disarticulation. He can only hold it by the broken and lacerated front part; whereas, if he applies the saw in the way I have proposed, the attachments of the ankle-joint, and the possibility of the assistant's seizing the projecting part of the heel, make his work much easier. Again, in sawing off the particular ends of the tibia and fibula, he has the astragalus to hold by, instead of the slippery ends of the malleoli.

After I had performed this operation twice on the dead subject, and was convinced of its suitability for the accomplishment of the object in view, I employed it in the following case.

Thos. M'C—, aged thirty-three, carter; admitted on the 4th January, 1859. "This afternoon a loaded railway wagon knocked the patient down, and passed over his right foot. The tissues on both sides of the ankle and foot are very much separated from the bones. Patient does not labor under any shock."

At a quarter past nine p. m., a consultation was called on this man's case. I then found his foot completely smashed except the heel, and, as stated above, the skin and soft parts were separated back to the very malleoli. Indeed, so bad was the laceration that some of my colleagues recommended amputation at the lower third of the leg. On careful examination, however, I found that I could perform the operation above described; and I accordingly did so, making as good a stump as in the former case, with much greater ease and expedition. The patient was feverish for a few days after the operation, and received gentle antiphlogistic treatment. He afterwards progressed slowly but uninterruptedly in his amendment. Just as in the preceding case, the limb was placed in a posterior splint of pasteboard, the stump was covered with water dressings, and the whole was supported by a bandage. The dressings were, of course, changed from time to time, but no adhesive plaster was applied to the wound.

He was dismissed cured on the 12th of March. His stump was sound, and the union of the bones perfect. He had been for some days accustomed to walk on crutches.

M. Pirogoff seems to dread the occurrence of two evils after his operation. These are—

1st. The death of the os calcis. Now, I can

hardly think that there is any very great danger of this occurrence, especially if the posterior tibial artery is not divided too high up. And even if the performance of the operation is thus marred, still the branches from the posterior peroneal artery to the outside of the calcaneum would, I think, be sufficient to maintain its vitality. At all events, there is no greater risk of death of the os calcis than of the posterior flap in Mr. Syme's operation. The same precautions are requisite in both cases, and will be equally efficacious in both.

2nd. Abscesses in the sheaths of the tendons are greatly feared by M. Pirogoff; and it cannot be denied that they are likely to occur in some of these cases. He recommends that the tendons be not cut too short in the formation of the flaps; otherwise when the muscles contract, the sheaths will be left empty towards the wound, and, in his experience, more liable to suppuration. It is very proper to attend to this advice, but surely it is seldom that these abscesses, supposing them to have occurred, are so very dangerous as he represents. The abscess is in most cases limited by exudative matter to a small part of the sheath, and, if freely opened when pus was formed, it generally proceeds no further, but heals kindly and readily. Such an abscess formed in the first of the cases which I have reported above, and it hardly retarded the progress of the case for a single day. It will, moreover, be obvious that this is a danger which is apt to present itself in all cases of amputation through parts supplied with long tendons, as at the ankle or in the forearm, but it has never been considered so very formidable by other surgeons.

It has occurred to me, that the splint, which I kept steadily applied in these cases, may have operated favorably in preventing the formation of abscesses in the sheaths of the tendons. This apparatus, no doubt, kept the whole limb quiet, permitted no jerking of the muscles, and prevented, to a certain extent, their contracting and pulling the tendons up from the cut extremities of the sheaths.

The chief advantages of M. Pirogoff's operation are—1st, that the length of the limbs is preserved as nearly equal as possible under the circumstances. M. Pirogoff's own statement is thoroughly borne out by my experience of his operation:—"The leg," says he, "after my operation, appears an inch and a half (sometimes more) longer than in the three other operations (Syme, Baudens, Roux), because the remnant of the os calcis left in the flap, as it unites with the inferior extremities, of the tibia and fibula, lengthens them by an inch and a half." In the case of the boy M'G—, the left leg is only two-fifths of an inch shorter than its uninjured fellow; and in M'C—'s case, it is not more than an inch and a half. This great difference in these two cases, is easily accounted for—(1.) Everybody knows that there is great inequality in the length of the os calcis in different persons;

some are more spur-heeled than others, and these persons, however clumsy their feet may have been before, would obviously make the best subjects for Pirogoff's operation. (2.) In M'C—'s case, the soft parts round the ankle were much lacerated, as formerly stated; and, in paring my anterior flap, I had to cut rather higher up than was desirable. The saw was also applied fully high up, so that a good half inch of tibia was cut off. Had it not been for this accidental circumstance, his limb might have been nearly half an inch longer.

2nd. The skin and areolar tissue of the heel are stronger and sounder in the stump after Pirogoff's operation than they could be if dissected off the heel, and applied to the ends of the bones of the leg, as must be done in any form of amputation through the ankle-joint. The support for the body is thus much better in the former than in the latter case, and the patient is sooner able to use it in walking. The boy M'G—, on whom I first operated, began to walk on his stump as early as six or eight weeks after the operation, and, in less than four months after its date, he could use it with perfect freedom. He still continues to do so, and his defect is hardly observable, whether in walking or standing, although he wears a very clumsy artificial foot. The other patient, M'C—, was, for some time, timid in using his stump, but by the beginning of May, when he showed himself at the hospital, he had quite overcome that feeling. He had obtained a very good light artificial foot, of such simple construction, that it only cost a guinea. He could walk without a stick, and it was remarked by every one who saw him, that no stranger could discover from his manner of walking that he had lost his foot.

In conclusion, I think that M. Pirogoff's operation is a great improvement in surgery, and I am astonished to learn that he has himself departed from it; for so it was reported officially by Messrs. Mouatt and Wyatt to Sir John Hall (Fergusson's Surgery, 4th edit., p. 487.) For my part, not only can I see no good reason for abandoning the operation, but I think its proposer deserves much credit. It seems to me preferable to any other form of amputation at the ankle-joint when the heel is sound; and I shall even go further, and maintain that it is, in some cases, preferable to Chopart's amputation through the tarsus. I refer to cases of injury of the foot in which the latter operation is sometimes attempted, though it may be impossible, owing to the laceration, to procure a sound covering of the soft parts for the astragalus. Now, when this is not done, the face of the stump is apt either not to close at all for a long time, or to ulcerate whenever an attempt is made to use it. It thus remains painful and useless for a length of time, during which the muscles of the calf of the leg contract and pull up the heel, thus increasing the mischief both as to pain in walking and deformity of the injured limb. Illustrations of these remarks must have occurred



in the experience of every practical surgeon, and two cases lately came under observation in our own hospital; the patients having sought relief because of their painful and ulcerated, and therefore useless, stumps. In the stump that remains after Pirogoff's operation such a state of matters could never occur, both from its shape and from the fact that the operation wound is fixed high up in front, where it is in no danger of being hurt in walking.

I have said nothing as yet about the choice of cases for this operation, and, indeed, very little need be said at all. It is obvious that the heel bone must be sound, otherwise the case is not suited for Pirogoff's operation. When the tarsal bones are diseased, the os calcis is seldom free from the morbid affection; hence in such cases, Syme's operation is generally more applicable; whereas, in accidental injuries of the front part of the foot, if neither Hey's nor Chopart's operation can be performed with a good covering of soft parts in front, then an admirable stump may generally be procured by adopting the procedure of M. Pirogoff.

## CROONIAN LECTURES.

### ON INTESTINAL OBSTRUCTION.

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS.

By WILLIAM BRINTON, M.D.,

FELLOW OF THE ABOVE COLLEGE; PHYSICIAN TO THE ROYAL FREE HOSPITAL;  
LECTURER ON PHYSIOLOGY IN ST. THOMAS'S HOSPITAL; HONORARY  
FELLOW OF KING'S COLLEGE, LONDON, ETC.

## LECTURE II.

### THE CHIEF VARIETIES OF INTESTINAL OBSTRUCTION.

*Frequency, absolute, relative. Intus-susception: in the dead, in the living, subject. Its nature; locality; age; sex; causes. Its anatomy and progress; in the (a) small intestine; (b) in the ilio-cæcal; (c) the colic, varieties. Their length; position in the belly; mechanism; duration. Symptoms. Differential diagnosis of the two chief varieties. Remaining varieties; share of obstruction in them. Obstruction of small and large intestine contrasted. Two groups of obstructions chiefly affecting these segments. First group: bands; diverticula; vermiform appendices, rents in mesentery; gall-stones. Second group: strictures; twistings of bowel*

In the preceding Lecture, I attempted briefly to enunciate the pathological laws which govern the process of intestinal obstruction generally. To-day it will be my object to review the group of maladies in which this process occurs, from a more strictly clinical aspect; in order to the distinguishing of the different members of this group from each other. But this object—the diagnosis of the chief varieties of obstruction—will oblige me, not only to sum up the symptoms characteristic of each, but,

here and there, to render these symptoms more connected and intelligible, by sketching the pathological changes to which they are due, as deduced from a series of necropsies. And I need hardly say, that it permits me to eliminate from my subject the large and important class of obstructions comprised in the term "ruptures"—a class which, in respect to both its diagnosis and its treatment, appertains to the surgical branch of our common profession.

From an analysis of about 12,000 promiscuous necropsies, I venture to conclude that the group of obstructions thus formed by the exclusion of hernia causes about one in every 280 deaths from all diseases indifferently.

From about 600 necropsies of such obstruction, I conjecture that its chief varieties have to each other the following proportionate frequency:—Intus-susceptions or invaginations, 43 per cent.; obstructions by bands, adhesions, diverticula, or peritoneum, external to the bowels, 31½ per cent.; strictures (including a few tumors) involving the intestinal wall, 17½ per cent.; torsion of the bowel on its axis, 8 per cent.

But I cannot make even this limited use of the vast materials I have collected and examined without adding that, statistically, they are too incomplete to be quite trustworthy. We shall, indeed, by-and-by, notice facts which sustain the conjecture that, according to the age, and even the sex, of its inmates, the promiscuous necropsies of any large hospital would include the first and last of these four groups, in very different proportions to each other; and would therefore afford a somewhat different estimate of their total or aggregate frequency. While it is only on diagnostic—that is, on practical—grounds, that I can defend the pathological confusion (if not cross-division) which is implied in the above grouping.

**INTUS-SUSCEPTION.**—And first, as respects the intus-susception, which is the most frequent of all the above lesions. It is well known that intus-susception of the intestine is often found in the dead bodies of comparatively young and well-nourished subjects. Such displacements, preceded by no symptoms, and accompanied by no lesions, are evidently due to the irregular contractions of the last agony, or to the *rigor mortis* of the dead intestine. They are easily reduced by traction, and may be exactly imitated by compressing a piece of intestine, and carrying it into another piece immediately adjacent. And there can be no doubt that they are caused by the intense (and yet discordant) action of the transverse muscular coat of the bowel; which, like the finger in the above experiment, pushes the portion of bowel it constricts into a neighboring relaxed portion.

In the vast majority of cases, the intus-susceptions which give rise to characteristic symptoms during life are forward (that is consist of the protrusion of an upper into a lower segment of bowel), and single;—both in the sense that only one is present in the whole canal, and that,

in this one, the inner and outer segments are continuous by a single intervening portion. The exceptions to these rules are so few, (I should conjecture, scarcely more than one or two in a hundred cases,) and even of these few some are so doubtful, and others so casual, that I do not feel justified in further considering them here.

The different parts of the intestinal canal are affected with the following proportionate frequency. In 56 per cent., the ileum and cæcum are carried into the succeeding large intestine (Fig. 11); the cæcum and colon becoming inverted to a variable distance from the ileo-cæcal valve onwards, to form a middle layer, the interval between which and the ileum contains a variable length of the vermiform appendix. Here the ileo-cæcal valve generally forms the lower end (*i c*) of the intus-susception. In 32 per cent., the small intestine forms all the layers (Fig. 8); and of these 32, in 25 the ileum is specified (though, I think, sometimes inaccurately) as the seat of the lesion; the jejunum only three times. In 12 per cent., the colon (including the end of its sigmoid flexure) is the bowel exclusively involved. The rectum scarcely ever forms more than the outer layer of an intus-susception which has descended into it from above. Even allowing for the different lengths of these various segments of the intestinal canal, we cannot avoid recognizing, in these numbers, a real difference of liability.

Age and sex, too, are worth noticing. Half the large class of ileo-cæcal intus-susceptions are infants under seven years of age; many but a few months old. Hence the average ages of the ileo-cæcal, iliac or jejunal, and colic cases respectively are 18.57, 34.6, and 31.4 years. In respect to sex the male seems much more liable than the female; the male cases being to the female, in these situations respectively, as  $2\frac{1}{2}$ ,  $4\frac{3}{8}$ ,  $1\frac{1}{8}$  (on an average  $2\frac{1}{2}$ ) to 1. This difference seems at least as great before, as after, puberty.

In 5 per cent., the intus-susception is caused by a polypoid tumor, the stalk of which, dragging down the bowel on which it is seated, inverts its coats. In many of the infantile cases, the occurrence of the lesion immediately followed a casual or artificial diarrhœa; a coincidence which also obtained in some of the adults. A proneness to intestinal derangement—especially to constipation or diarrhœa—is also a frequent feature of the previous history. Several cases have been preceded by attacks more or less resembling intus-susception. Whether in the ileo-cæcal and colic cases of this kind, any congenital laxity of the meso-cæcum and meso-colon aids or causes this disposition must remain unknown; all direct proof of such a cause being necessarily removed by the lesion itself.

Every intus-susception presents three layers (*a, b, c*, Figs. 6, 7, 8); conveniently distinguished as its inner, middle, and outer layers; and ap-

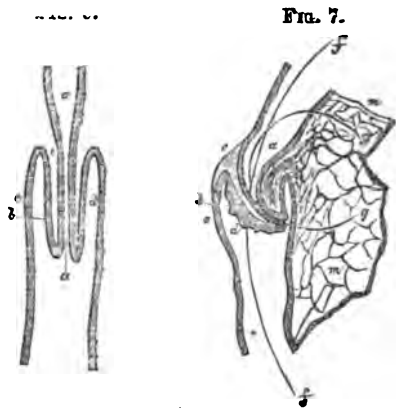


FIG. 6.—Diagram to illustrate the intus-susception of a flexible tube, as seen when cut lengthwise.

*a*, inner layer. *b*, middle layer. *c*, outer layer. *d*, interval of two inner (mucous) surfaces. *e*, interval of two outer (serous) surfaces.

FIG. 7.—Similar diagram to illustrate the intus-susception of small intestine. *a* to *c*, as in preceding figure; *e* being occupied by a mass of lymph. *f*, general curve of the intestine. *g*, special curve of the intus-susception. *m, m*, mesentery.

posing to each other, in passing outwards from the axial or innermost one, two serous (*e*, Figs. 6, 7), and next two mucous (*d*, Figs. 6, 7), membranes. In other respects, however, the varieties above noticed present some important differences.

In the small intestine, the arrangement of the mesentery dictates, from the very first, a peculiarity of shape, which all the succeeding phenomena tend to increase. The inverted middle layer receives, not merely the inner (as in the intus-susception of a flexible tube like the finger of a glove,) but a kind of conical wedge of the mesentery (*m*, Fig. 7) common to both. The compression thus exercised on the large and numerous mesenteric vessels soon brings about a complete stagnation of their contents; evinced by ecchymosis, or even by copious hæmorrhage, in the adjacent uninjured mesentery; as well as by enormous congestion and swelling of all the layers of the invagination, and hæmorrhage from the mucous membrane forming its innermost surface. And as the mesenteric edge of the invaginated bowel is thus bound down by what inflammation and exudation soon thicken into a solid mass of mingled original and adventitious tissue, separating the inner and middle layers of the intus-susception, while the opposite edge is free to obey the impulse of contraction from above, the divergence of the axis of the invaginated part from that of the bowel above and below, becomes continually more marked as the inversion proceeds; until it finally forms a segment of a much smaller circle, and points by the terminal orifice of this segment to the mesenteric edge of the outer layer; with which the lowest part of the inversion (or that joining its inner and middle layers) is often in contact. The more distensible external or convex part of the middle layer is, for the same reason, thrown into transverse folds, some



what resembling *valvulae conniventes* (*d*, Fig. 7, Fig. 8.)

FIG. 8.



Intus-susception of the small intestine.

The layers of the intus-susception (*a*, *b*, *c*, as in the two preceding figures,) are cut open to show their relation; and the inner (*d*) is occupied by a bent probe, the round head of which protrudes from the terminal orifice of this layer, in contact with the inner border of the bowel.

Any progress of the inversion seems to be generally a mere propulsion forwards, such as adds equally to the length of both its middle and inner layers. But the convertibility of length and width, in an extensible elastic tube like the bowel, renders the swollen and distended middle layer really much the larger of the two; while conversely, the continually increasing compression exercised on the inner one allows it a considerable increase of length, with little or no increase of surface, as is well seen in the case of the vermiform appendix. It is, perhaps, by some effect of this kind that we may explain a case observed by Cruveilhier, in which two polyps appeared to have receded at least half way up the middle layer towards its junction with the outer one.

It may be doubted whether any complete obstruction of the innermost tube is generally producible by the mere act of intus-susception itself. But the swelling soon brought about by vascular congestion amply suffices to induce it; still more when this swelling is increased by the exudation which speedily follows the stagnation of the intestinal blood. From henceforth obstruction is generally complete, and is accompanied by all the symptoms alluded to in the preceding Lecture.

But while, in intus-susception generally, complete obstruction is so far casual and incidental to the process, as that it is sometimes absent, and often appears to permit the continual expulsion of bloody mucus from the central tube of the inversion; so it must further be noticed, that it is generally accompanied, and modified, by a special set of inflammatory changes, which are capable of removing the lesion, and restoring a transit through the bowel it obstructs, at the expense of the loss of the intus-suscepted part.

The congestion, inflammation, and exudation to

which the mesenteric injuries soon give rise, are by no means exactly limited to that segment of intestine supplied by the injured vessels, but extend to a variable distance above and below the junction of the middle and outer layers—especially above, where the obstruction of the bowel, and its resulting dilatation, often render this inflammation additionally diffuse and dangerous. And hence, in most cases, not only are the apposed serous surfaces of the inner and middle layers glued together by adhesive lymph, but a variable amount of a similar deposit surrounds the ring which forms the upper boundary of the inversion. And it is here that, by-and-by, the vessels of the healthier bowel above and below are concerned in the formation of two circular lines of demarcation, which, by ulceration, or sloughing, or both, ultimately separate the whole of the invaginated part; so that it becomes free in the cavity of the bowel, while the annular mass of adhesive lymph surrounding this ulceration completes the intestinal channel, and prevents all effusion of its contents.

The exact frequency of this favorable termination of the process cannot be estimated; but it is doubtless much greater than is generally supposed:—not less, I may conjecture, than one in every two (or at most three) cases. On an average it is not complete before the eighth day, and the liberated bowel is rarely expelled per anum before the tenth day (or two days more.) And as the intus-susception, where primarily fatal, kills in about five days and a half, we may fairly conjecture that this casting loose of the invagination is sometimes only prevented by the death of the patient.

Some of the details of the process deserve notice, if only from the risks they bring with them. Inflammation, and all its modifications, take even more than their wonted share in this variety of obstruction. Ulceration, gangrene, and rupture of the distended segment immediately above the invagination are thus brought about. Peritonitis runs rapidly to diffuse supuration; or, more slowly, forms an abscess, (as on the psoas or iliacus muscle,) ultimately fatal. Adhesion of the external lymph conditions some future strangulation; contraction of the cicatrix ends in stricture and obstruction; accumulation of hard indigestible food, or violent exertion, bursts the soft adventitious tube replacing the expelled bowel, and lights up fatal general peritonitis. Or lastly, the patient sinks gradually into a state of exhaustion, too complex to analyze, but probably sometimes referable in part to the loss of secreting and absorbing intestinal surface.

Exactness of coaptation is, of course, an important element in the chance (as well as in the completeness) of recovery; and is preventible by various casualties, mechanical and pathological:—by retraction of the contiguous ends of the bowel; by undue exudation, sloughing, or ulceration; limiting the new channel to a scanty leakage, or to a thready calibre (Fig. 10:)

FIG. 9.

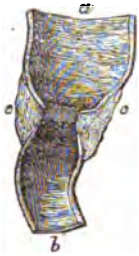


FIG. 10.



FIG. 9.—Intestine, after the separation of an intus-susception, cut lengthwise, to show the union of its segments. *a*, upper segment. *b*, lower segment. *c*, mass of pasty lymph replacing the separated segment, so as to enclose a channel continuous with that of these two segments.

FIG. 10.—Similar, but less exact, union, uniting the two segments by a mass of lymph, with a narrow channel through it.

*a*, *b*, *c*, as in Fig. 9. The upper and lower segments, close to each other on the mesenteric side of the bowel, *a*, *b* some inches apart on the other; the adventitious mass filling this interval being perforated by a long and narrow tube, external to the axis of the bowel.

or giving it, with a wider aperture of communication between the two adjoining segments of intestine, a wall formed of lymph or purulent exudation, or even of some part of the parietes or contents of the belly, confounded in a similar deposit.

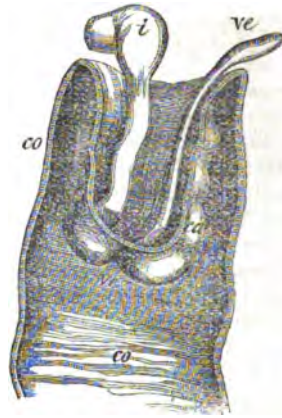
The process of removal is subject to similar, but less dangerous variations; respecting which the seventy or eighty recorded cases of the expulsion of an intus-suscepted bowel during life, scarcely permit any general conclusions. Sometime the whole intus-susception is discharged as a single-tube; in which the middle or inner layers retain their inverted relation to each other. Oftener, I think, the outer of these two comes away first; to be followed by the inner, either in smaller pieces, or as a dark, putrid, pulpy mass, which sometimes comes away so gradually as to suggest a process comparable to solution. In rare instances the inner layer appears to contract into the cicatrix, in which it is doubtless slowly absorbed from the exudation of organized lymph united with it. The complete obliteration of its calibre by adhesion of its mucous aspect seems more common; though, like the similar adhesion between the mucous membranes of the middle and outer layers near their continuous edge, it is far less frequent than the fusion of the apposed peritoneal surface of the middle and inner layers. Lastly, an imperfect fringe of the middle layer, the inner one, or both, is sometimes left by the removal of their lower segments.

It seems by no means improbable that the arrangement of these segments is sometimes modified by the mechanical circumstances which attend their expulsion;—that one of the layers is sometimes inverted by the distension and peristalsis which attend their loosening and separation, so as to throw them both into a single continuous tube. Certainly the intestine expelled often makes its appearance as a long quad-

angular piece, or a tube here and there slit up in a line corresponding to its removed mesentery. In other cases it is twisted into a mass, or even knotted at one end. Such contingencies, too, are so far of practical interest, as that they explain the secondary and tertiary obstructions to which the severed segment sometimes gives rise, near the original obstacle, and in its course towards the anus, respectively.

The ileo-cæcal intus-susceptions already described as generally having their valve at their lowest point, are at once recognized by the relations of the vermiform appendix. And what between the outline of the cæcum when inverted, and the subsequent infiltration of the lax tissues outside it, the slender appendix usually acquires a large funnel-shaped opening (*ve*. Fig. 11) between two projecting lips or folds of swol-

FIG. 11.

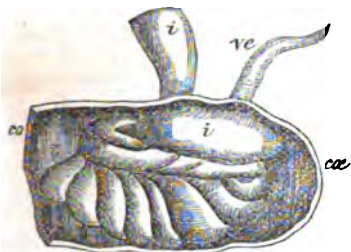


Ileo-cæcal intus-susception, as seen when cut lengthwise.

*i*, end of ileum passing downwards to *ve*, the ileo-cæcal valve. *ve*, vermiform appendix passing down to its funnel shaped orifice. *co*, everted cæcum forming the middle layer of the intus-susception. *co*, colon forming its outer layer.

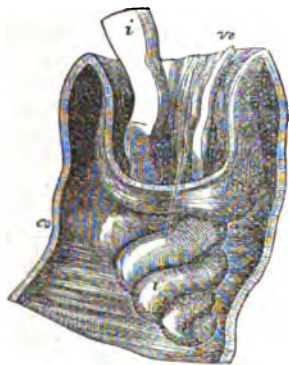
len mucous membrane, such as is quite characteristic at the first glance. The relation of the remainder of the appendix varies with the length of the intus-susception, and with the casual arrangement of its own mesentery; sometimes (Fig. 11) it is compressed into a long and attenuated tube, passing upwards in a right line between the middle and inner layers; sometimes it is bent into a curve, or fairly doubled up in the bottom of the pouch of the inverted cæcum. The shape of the whole intus-susception requires no special description, save to point out that the roomy cæcum and colon forming the middle layer permit the ileum to occupy it without producing that definitely curved angle seen in the invaginated small intestine. The valve is generally on one side of the extremity; and the intus-susception, if short, is often curved. But the ileum within is rather twisted, than simply bent, upon its short mesentery; a condition still more marked in those rare cases (Figs. 12, 13) in which the ileum passes through the valve itself.

FIG. 12.



Intus-susception of ileum through ileo-cæcal valve. (Very rare.)  
*i*, ileum, intus-suscepted through the ileo-cæcal valve to occupy *cæ*,  
 the cæcum, and *co*, colon. *ve*, vermiform appendix. *b*, terminal  
 orifice of the twisted ileum.

FIG. 13.



Compound intus-susception of ileum and cæcum; the former  
 passing through the ileo-cæcal valve, continuously with the lat-  
 ter, into the colon. (Very rare)\*  
*i*, ileum, and *ve*, vermiform appendix, within the everted, *cæ*,  
 cæcum, which is separated by a deep constriction concealing  
 the orifices of the above tubes from the twisted and everted ileum,  
*t*, below it. *co*, colon.

In the colic invaginations, the three layers often  
 have almost parallel surfaces, and a terminal  
 orifice.

In all these intus-susceptions, the length of  
 invaginated bowel can only be estimated after  
 its retraction, by which the perhaps heretofore  
 short, thick, cylindrical mass is shown to be  
 far longer than might be supposed. Thus es-  
 timated, their length varies greatly; the long-  
 est invaginations of the small intestines amount-  
 ing to three or four feet, or even more; while  
 the ileo-cæcal, or colic, are often long enough  
 to permit a protrusion of the ileo-cæcal valve,  
 or of the colon to a considerable distance beyond  
 the anus, so as to hasten the sloughing of the  
 intus-suscepted part by this unnatural exposure.  
 Reducing such protrusions to their proper width,  
 they obviously correspond to invaginations in  
 which both the inner and middle layer some-  
 times involve three or four feet of bowel. No  
 exact averages can be specified for either var-  
 iety; but the imaginations of the small intes-  
 tines seem to be, on the whole, much the short-  
 er (about four or five inches in each layer); the  
 ileo-cæcal much the longer (perhaps carrying  
 the valve into the transverse colon); and the  
 colic of a length about midway between the

two. These maximum and average lengths gen-  
 erally correspond with the time occupied by  
 the process; which (as its pathology and symp-  
 toms concur to show) is, both in the longer var-  
 ieties and examples, usually the result of re-  
 peated or protracted efforts, lasting many days.

The situation of intus-susceptions in the belly  
 may easily be gathered from anatomical con-  
 siderations. Short invaginations of the small  
 intestines may occupy almost any abdominal re-  
 gion. But they are so much more frequent in  
 the lower end of the bowel, that they oftener  
 correspond with hypogastric and right iliac re-  
 gions; regions into which any great increase  
 of their length is pretty sure to bring them,  
 whatever their original seat. The ileo-cæcal in-  
 tus-susceptions, for equally obvious reasons,  
 begin in the right iliac region; and from hence  
 gradually pass across the belly to the left iliac  
 region, into which, after dragging down the  
 arch of the colon, so as to constitute a short,  
 thick mass parallel with the pubis, they sub-  
 side, by engaging the sigmoid flexure and the  
 rectum, and thus entering the pelvic cavity.  
 The colic invaginations so far illustrate the same  
 role, as the curve of the colon into the chord of  
 that arch of bowel originally engaged by the in-  
 tus-susception.

FIG. 14.

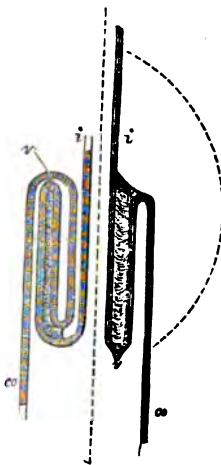


FIG. 15.



Fig. 14.—Diagram to illustrate the formation of a (rare)  
 double ileo-colic intus-susception. The dotted straight  
 line represents the centre or axis of the tube; on its left  
 is the intus-susception as observed; on its right the state  
 which probably preceded it. *v*, ileo-cæcal valve; *i*, ile-  
 um; *co*, colon. (The ileum and cæcum of the ordinary  
 (Fig. 11) ileo-cæcal intus-susception being united by  
 adhesion, a further invagination of the ileum above, un-  
 able to sever this attachment or displace the united lay-  
 ers, inverts the colon beyond them, rotating it through  
 the dotted curve, so as to appose the parts forming the  
 ends of this curve, and thus to convert the ordinary sin-  
 gle, into an extraordinary double, intus-susception.)

Fig. 15.—Similar diagram to illustrate the formation of a  
 double iliac intus-susception. *v*, *i*, *co*, as in Fig. 14. (The  
 adhesion and fixation of the intus-susception on the right  
 causes the subsequent inversion to tell on the more flexi-  
 ble ileum above, causing a second invagination within the  
 first, as seen on the left side of the diagram.)

The time at my disposal forbids me to dwell  
 on the mechanism of intus-susception further  
 than to offer the following opinions:—The im-  
 mediate cause of the displacement must be

\* Preparations illustrating this and the preceding lesion are con-  
 tained in the museums of Guy's and Middlesex Hospitals respec-  
 tively.

sought, not only in an abnormal violence, extent, and abruptness of that contraction of the transverse muscular layer, which is one element of peristaltic movement, but in a deficiency of that co-ordinate contraction of the longitudinal fibres, which is an equally important (though less energetic) constituent of healthy peristalsis. The sudden and forcible constriction of a considerable length of bowel—fixed, as it were, behind, by the hitherto unrelaxed contraction from which it has extended, and bounded in front by a relaxed and flaccid bowel (unstretched by the due contraction of its longitudinal fibres)—must, as it suddenly diminishes the width of the segment it involves, simultaneously increase its length; and thus push a variable portion of it into the succeeding dilated segment. This explanation, which seems to be a simple and incontrovertible application of the laws of intestinal movement to the facts of intus-susception, refers the lesion to two causes: an active and a passive: one which thrusts the bowel forwards into the next segment; and one which permits this segment to receive it. And the predominance of one or other of these two causes seems to account for the differences of liability to this displacement exhibited by the various segments of the intestinal canal, just as their concurrence may (unlikely as it seems at first sight) be found of the intus-susception produced by a polypoid growth. For example, the liability to this displacement seems to increase with the proximity of the small intestine, to the ileo-cæcal valve. And this increase seems referable (like the effect of diarrhoea) to some such general peculiarity in the muscular action of the end of the ileum, as may equally affect both the above conditions of invagination. But the remarkable frequency of the ileo-cæcal invagination seems to depend on three circumstances: an irregular activity of the ileum, a resistance by the valve itself, and a laxity (probably congenital) of the cæcum. The first tends to invaginate the end of the ileum; the second prevents this bowel from being forced through the valve; the third permits the pliable cæcum to form the middle and outer sheaths. In any case, as I cannot discover the slightest reason for supposing that this, the commonest, form of the displacement is often developed from an iliac invagination, so I think there are grounds for regarding it as in some degree especially a lesion of the cæcum. To this I will only add, that several of the double intus-susceptions recorded clearly indicate the adhesion of some part of the apposed serous surfaces of the first invagination as the cause of the formation of a second.

The average duration of the cases directly fatal appears to be the same in the different varieties (five days and a half). Not so, however, either the frequency, or the date, of that process of separation and expulsion which removes the intus-suscepted part. Comparing the numbers of such cases of expulsion with those of intus-

susception generally, in the same segments of the canal, we may infer that this process occurs more than twice ( $2\frac{1}{2}$  times) as often in the invagination of the small intestine as in the ileo-cæcal variety. And the importance of this disparity is increased by its results: the expulsion of the small intestine generally ending in the patient's recovery, at least for a time; while in one-third of the ileo-cæcal cases of expulsion, death seems no way retarded. The date of the process affords an equal contrast in the ileo-cæcal intus-susception; the separation and expulsion of the invaginated segments taking place, in the average, on the fifteenth and twenty-second, instead of the eighth and tenth, days respectively. In all these points the colic variety closely resembles the ileo-cæcal; but its numbers are too small to justify separate notice.

The *symptoms* of intus-susception may be regarded as combining, with circumstances more or less indicative of the process just described, a variable degree of obstruction on the one hand, and of inflammation on the other. The patient is seized with a sudden violent pain, often exactly localized in the region corresponding to the intus-susception; and, even when most agonizing, sometimes distinctly recognized as a straining or tearing sensation. It is rarely accompanied by rigors. It usually ushers in vomiting. The vomiting may subside, especially if inflammation be early and intense; but it more frequently remains; to merge, in the course of three or four days, into faecal vomiting. Sometimes it ejects streaks of blood: occasionally it brings up this fluid in considerable quantity. The obstruction indicated by such faecal vomiting may, however, be not only absent or present—in the latter case being attended by all those symptoms described in the preceding Lecture—but may be in some degree masked by the signs proper to intus-susception itself. Amongst the latter, it is especially obscured by diarrhoea and tenesmus; which, perhaps, sometimes expelling intestinal contents which have really traversed the invagination, oftener cause a flux of blood and mucus, deriving its faecal characters exclusively from an admixture with the casual contents of the intestinal canal below the intus-susception. The tumor caused by the intus-susception is a physical sign of the greatest value. It is probably not often absent, though easily overlooked. Certainly, its small size in many cases, and especially in the earlier stages of the lesion, need rarely prevent its recognition. And even that distension of the intestine which conditions faecal vomiting seems to interpose no serious obstacle to the discovery of the solid cylindrical mass which usually reveals an intus-susception to careful examination. It is chiefly by peritonitis, and especially by that extreme relaxation and tympanites of the belly which accompany it, that the tumor of intus-susception is obscured. Sometimes it has been traced passing across the belly, from the right to the



left iliac fossa, in the course of a few days. Still more frequently has its disappearance coincided with the casting loose of the invaginated bowel.

The symptom of the same kind which may sometimes be detected by an examination of the rectum needs no comment. Nor do the enteritis or peritonitis of this lesion require any specific description, apart from what has already been said respecting their general intensity, and the collateral perils with which they threaten every stage of invagination, even up to the period of complete recovery.

The general distinctions between the two chief varieties of intus-susception appear to be tolerably well marked. The ileo-cæcal (and, *a fortiori*, the colic) invagination is distinguished from that of the small intestine by—(1) The prominence of tenesmus, which, indeed, in any marked degree, is rarely present where the small intestine only is implicated. (2) The greater size and fixation, as well as the different site, of the tumor, which, if large, generally proceeds to occupy the left side of the hypogastric or the left iliac region. (3) The subordinate share taken by hæmorrhage, which, instead of copious bleeding by stool and vomit, is often little more than a scanty admixture, scarcely sufficient to tinge the mucus passed from the bowels, with violent and frequent straining, by the patient. (4) The still more subordinate share generally taken by obstruction, which not only seems to be often anticipated by death, as regards any complete symptoms of its presence, but to be really absent owing to the patulous state of the invagination. (5) The presence of the end of the invagination in the rectum; a differential circumstance which, like the difference of duration already specified, belongs rather to the more marked and protracted cases than to those usually met with.

The obstacles to such a differential diagnosis seem to lie, less in the real exceptions which rarely obtain, than in that obviously close approach in most of the above characters which the nature and situation of some of these intus-susceptions can impart. For example, tenesmus appears to belong chiefly to the large intestine; copious hæmorrhage, to interfere with the vascular mesentery of the small intestine. But the intus-susception of the lower end of the ileum, cæcum and colon may excite the former symptom, perhaps by mere proximity; while the casual circumstances of the lesion may bring about the latter when the large intestine only is involved.

In passing on to consider the remaining varieties of intestinal obstruction, it may be premised that while, in the preceding lesion, the share taken by obstruction is, in the main, subordinate to that of inflammation, obstruction now becomes paramount; so much so, that the whole features of the malady seem chiefly dictated by (1) the locality, and (2) the nature, of the obstacle. And the practical importance of

the first of these two modifying causes is enhanced by the fact, that there is a close clinical connection between them both. The several varieties of obstruction under discussion, though they have no essential relation to either of the two divisions of the intestine, do really effect them with so very disproportionate a frequency, that, as we shall see, strictures and twistings obstruct chiefly the large intestine; bands and peritoneal lesions, the small intestine. Nor is the practical value of this connection, as a rule, at all incompatible with the scientific value attaching to its exceptions; which, for example, not only teach us, on the one hand, how the symptoms of obstruction are modified by strictures of the canal, apart from their situation, or by bands of adhesion, apart from the segment of intestine they may chance to strangulate; but conversely, how the mere situation of the obstacle, independently of its situation, influences the whole course of the malady.

An analysis of this kind shows that obstruction of the small intestine is characterized by the following peculiarities.

Pain is more early and severe; and, until distension brings the affected bowel against the abdominal wall, is less distinct in its reference. The first of these circumstances is probably to be referred to the more abnormal character of distension in this part of the canal, the scanty contents and rapid transit of which are contrasted with the more voluminous and solid contents of the large intestine, and with their slower progress through its cavity.

The umbilical seat of the pain caused by lesions of the small intestine is, I suspect, connected with the homologies (or rather with the development) of this segment of the canal. Vomiting is also more early, severe, and frequent: characters which are ascribable, partly to the same law of distension, much more to the pathology of this act itself; which, as I have endeavored to show elsewhere, occurs in lesions of the various parts of the alimentary canal with a facility varying (*ceteris paribus*) with the closeness of their alliance to the stomach, the central organ of this expulsive process. Fæcal vomiting is also a much more prominent symptom. For, as stated in the preceding Lecture, the rapidity of its access is inversely as the length of intestine intervening between the obstruction and the stomach. While the peculiar arrangement of the ileo-cæcal valve postpones this symptom to such a period of an obstruction in the colon, as is even later than the length and width of the additional segment of the bowel to be traversed by the reflected contents would suggest. And it must not be forgotten, that in any wide clinical observations on obstruction in these two parts of the intestinal canal, the frequency with which this symptom is present, must follow the same rule as its speediness. For whatever defers fæcal vomiting; in most cases, will, in many, prevent it altogether;

by allowing the later access of the symptom to be anticipated by the death of the patient.\* A similar uncertainty seems to be traceable in that curious intermittence (or even cessation) of this symptom which has been sometimes seen in fatal obstructions of the large intestine.

The quantity of the urine is another symptom on which great stress has been laid as a means of diagnosis. The rule (generally attributed to Dr. Barlow) propounded respecting it states, that the nearer an obstruction is to the stomach, the smaller is the amount of urine passed by the patient. And the explanation of this rule refers it to that diminution of intestinal surface for the absorption of fluid ingesta which the obstruction brings about. Even while questioning the accuracy of both the rule and the explanation, I cannot but regard it as an interesting example of valuable clinical observation, stopping short at a half truth, but pointing to a whole one. That it has little direct value, numerous examples might be adduced to prove:—obstructions near the end of the large intestine, with scarcely any urine passed during many days; obstructions high up in the small intestine, with the urine tolerably copious; and, lastly, obstructions in which the urine, at first suppressed, gradually attained a considerable amount as the disease advanced, or, conversely, was only suppressed towards the very close of the case. And as regards the above explanation, I should substitute for it, on grounds strictly pathological, at least there or four contingent causes; among which suppressed or restricted absorption by the bowel would find but a very subordinate place. That it has no share whatever in causing such a diminution of urine would be a hardy assertion. But contrasting the copious vomiting seen in some of these cases with the moderate ingestion of fluid often accompanying it, and with the enormous quantity of liquid further found distending the bowel after death, it does seem to me, that the effusion of such vast quantities of liquid from the affected tube constitutes by far the most obvious and simple cause for a diminished secretion of urine, especially when viewed by the light derivable from the analogous diminution seen in Bright's disease and Asiatic cholera—in which we may often notice the same mucous surface acting vicariously to the kidney, on the one hand; and depriving it, by a similar process of effusion and expulsion, of the watery materials which conditionate its function, on the other.

Hence, without denying that the obstructed intestine may be seriously damaged, as regards its absorptive function, I content myself with asserting, that all proof of an extreme degree of such injury fails us. And while I believe that the amount of vomiting is the truest symptomatic correlative of the diminution of urine, I should not be disposed to lay too much stress

on even this connection, close as an analysis of cases shows it to be. For though it roughly measures the amount of intestinal effusion, as well as the proximity of the obstruction to the stomach (the organ of its exit,) and would account for more of the urinary variations observed than any other explanation, it, too, affords no single or satisfactory rule. On the contrary, it would seem that violence of the general fever, or of the local inflammation, the pain of micturition, when the bladder is involved in peritonitis, and (I would almost add) mere collapse;—can all, by turns or in combination, greatly diminish the quantity\* of urine passed during intestinal obstruction.

To that general contrast in the rapidity and severity of the disease in the two portions of the intestine which is suggested by the above details, we may add some signs especially belonging to the obstruction of the large intestine. Flatulence, in the shape of violent borborygmi, and extreme tympanitic distension of the bowel, unattended with any expulsion of gases per anum; and tenesmus; are phenomena belonging too strictly to the physiology of this segment of the digestive canal to demand any further explanation here. The mere anatomy of the large intestine—that is to say, its size and situation—often affords a further means of distinction; especially when the information thus suggested is compared with that obtained by a careful exploration of the bowel per anum with the finger, a bougie, or a full enema. The size and situation of the tumor formed by the distended intestine is, however, often equivocal. For whatever its original seat, it gradually usurps a large portion of the cavity of the belly; and, even if small intestine, ultimately acquires a diameter easily suggesting that of the colon.† Indeed, as regards its locality, there is a further source of ambiguity. To say nothing of obstructions originally occupying the cæcum, the structure and arrangements of this part often cause it to bear the brunt (as shown, not only by its disproportionate distension, but even by its inflammation and rupture) of an obstruction in some distant part: for example, in the sigmoid flexure. While we shall find that the right iliac region, which is thus a common seat of special pain, tenderness, and swelling, in obstruction of the large intestine, is also by far the most common locality for the same prominent symptoms in those varieties of obstruction which chiefly affect the small intestine,‡ as well as in the more frequent kinds of intus-susception already noticed.

In the promiscuous collection of necropsies I have made, the remaining varieties of obstruction may be arranged in two groups, which refer chiefly to the small and large intestine re-

\* Some of these would, of course, rather be instances of concentration as regards its essential constituents.

† The healthy colon, though, not the distended one.

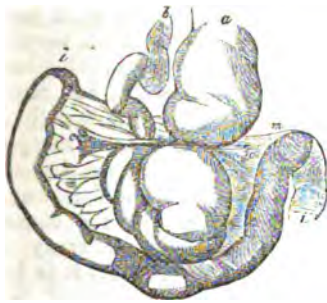
\* Thus, in an obstruction of the small intestine, all other symptoms may be anticipated and prevented, by collapse, destroying life in a few hours.

‡ This uncertainty would be greatly guarded against by recollecting, that such iliac symptoms occur in different stages of the obstruction of these two segments.

spectively, and have to each other proportions nearly as 3 to 2. In the larger group which includes obstructions produced by bands, adhesions, diverticula, gall-stones, and lesions of the mesentery or other peritoneal structures, the small intestine is the seat of the obstacle in nearly 95 (94·53) cases per cent. In the smaller group, formed by strictures or tumors, and twistings of the bowel and mesentery, the large intestine attains a converse (but less prominent) disproportion of nearly 90 (87·36) per cent.

The *bands* and *adhesions*, together amounting to 42½ per cent. of the larger group, are only distinguished from each other by the length of that new deposit of which, in its various gradations between lymph and fibrous tissue, they are constituted. More than 80 (81·13) per cent., however, possess the extension entitling them to the former name. The contingencies of uterine activity seem to render them somewhat more common in the female (as 15 to 13;) a circumstance perhaps connected with a slight difference in the age at which they conditionate obstruction (35 to 37: average for both sexes, 36 years.)

FIG. 16.



Loop of intestine strangulated by a band fixed at both ends to mesentery.  
i i, intestine, of which the mesentery, m m, gives origin to c c, the strangulating band.  
a, distended intestine above,  
b, contracted intestine below, the double strangulation corresponding to c c.

Their attachment is generally (75 per cent.) to mesentery or omentum (as 4 to 1)—(as in a, b, Fig. 17) often (18 per cent.) by both extremities (Fig. 16: oftener (34 per cent.) by one end to the free margin (or some other part) of the bowel (as in a, Fig. 17.) Rarely (1 case in 5) are they fixed to the large intestine: and it is still more (thrice as) infrequent for them to unite two points of bowel.\* In about 32 per cent. of the female cases, they adhere by one end to some part of the internal organs of generation. The small intestine is the seat of the obstruction they cause in about 93½ per cent. General or local peritonitis, and the diseases to which these inflammations are incident (such as typhoid fever, dysentery, &c.) often figure in the previous history of the patient; but seem (as the details of the lesion independently suggest) to account for only the minority of cases.

The formation of these bands from soft in-

flammatory lymph is evidently by a process, in which a pasty mass is sometimes elongated gradually by the mere movement of one or both of the two viscera or surfaces it unites; sometimes continually drawn out by such a gentle traction on its fixed extremity, while it is as constantly lengthened by new deposit at the other or inflamed end. Offering no essential distinction from the similar processes witnessed in the serous covering of the stomach,\* liver, heart, and lung, the wider range of the intestines in their containing cavity, as well as the greater complexity and independence of the movements of their various segments, sometimes bring about curious results (as in Fig. 17;) which are, however, easily explained by the above statement.

FIG. 17.



Loop of intestine twisted so as to be strangulated by two bands of adventitious tissue. (From a preparation in the Museum of St. Thomas's Hospital.)

o, omentum, giving origin to two bands, passing, a, to the free margin; b, to the mesentery, m of a loop of intestine, i.

Of these bands, a only completes the noose; b strangulates the bowel in two places, c and d, the first in it seriously. The bowel appears to have dropped into the noose from above.

In another sub-variety of this group, the obstruction is formed by the cord-like tube of a *diverticulum ilei*, or by the *vermiform appendix*, and constitutes about 28 per cent. of the group; the abnormal and the normal tube having, however, the relative frequency of 2 to 1.

The anatomy of the *diverticulum*, as a relic of foetal development, has been so well treated of by Meckel and Struthers, that I need not dwell upon it here. Originally a process of the umbilical vesicle, it forms a tube, leaving the ileum a little above the cæcum at an acute angle, and passing to a variable distance towards the navel, which it sometimes joins. The obstruction it causes seems limited to the small intestine. And it is, in nearly 80 per cent., an adhesion of some part of the tube (usually its free extremity) that completes the strangulating noose: the adhesion attaching it to the following parts in a diminishing order of frequency—the abdominal wall, the mesentery, the small intestine, the navel, the omentum, and the large intestine.†

The obstruction formed by the vermiform appendix suggests somewhat analogous rules. Strangulating the large intestine, in spite of its

\* Compare "Diseases of Stomach," p. 162, *et passim*.

† Compare Meckel, Anat. Path., vol. i., p. 555; Struthers' Anat. Observer also Author's article, "Intestine," Cyclopædia of Anatomy, Supp., p. 404.

\* The epiploic appendages are rarely (1 in 16) their origin.

proximity, not oftener than once in 14 such cases; and always adherent (usually at its tip) to form the noose; its attachment, oftenest to the mesentery, declines through small intestine, large intestine, and ovary, to the omentum, and the abdominal wall generally. Proximity and relative movement are the casual relations here suggested. Age seems almost to correspond for both; their youth (about 22 years) suggesting (however vaguely for the lesions of the vermiform appendix) some developmental origin. Sex seems only to differ in the case of the diverticula; the obstructions produced by which appear (like intus-susception) to be from twice to thrice as frequent in the male as in the female.

Apart from these facts, there is little in the pathology of the four preceding kinds of obstruction calling for notice. The vague and casual suggestions of peritonitis, or of previous obstruction, sometimes afforded by their history, have scarcely any practical bearing on their diagnosis during life. The pain which ushers in their obstructive results is equally uncertain; and seems not only to be, on the whole, but moderate in intensity; but where severe, to be quite as often referable to distension of the bowel, as to hyperæmia or inflammation, such as cause the characteristic pain of the bowel when impacted, either by intus-susception in its own coats, or by protrusion through a hole in the mesentery. In this respect they seem akin to ordinary strangulated hernia. The duration of the malady is on an average about six days; an estimate which will apply to the other varieties of this group of obstructions, with scarcely any alteration. The rarity of any spontaneous restoration of transit appears at a glance when we consider the circumstances necessary to effect it: the exactness of coaptation and of gangrene necessary to a fiatulous communication between the segments of bowel above and below the obstruction, on the one hand; or the hazards which attend the formation of an abnormal intervening cavity, on the other.

The obstructions caused by the compression of a fold of *peritoneum* constitute about 21 per cent. of this group. Of this 21, ruptures of the mesentery form about 15 or 16, or three-fourths; the average age being 34½ years, and the sex at least two males to one female—a fact doubtless connected with the violent exertion to which most of them are immediately traceable. The intense pain and hæmorrhage which often attend the accident, and usher in the symptoms of obstruction, are equally explicable. The other peritoneal causes are too various and infrequent to repay notice: obstructions from protrusion of bowel through a hole in the ragged omentum (2½ per cent.), through a persistent urachus, through the suspensory ligament of the liver, through the muscular coats of the bladder, and through the meso-colon, are alike occasional.

Obstructions by *gall-stones* form about 8½ per

cent. of this group. Their average age is 57½; their sex, four females to one male. So far as I know, the stone always enters the bowel by direct ulceration, through the coats of the exposed gall-bladder and duodenum, and not down the cystic duct; a fact sufficiently explained by the large size such a stone must possess, in order to become impacted in the intestine at all. It is often the only gall-stone present; indeed, is often a complete cast (oval or pear-shaped) of the gall-bladder itself; or is the severed half or third of such a cast. These details are practically important, since they suggest (what, indeed, experience confirms) that, while we may always expect, in the previous history of such cases, evidences of the hypochondriac inflammation and ulceration by which the stone enters the duodenum, we must not expect to find equally constant evidence of the ordinary paroxysms of pain and jaundice which attend the passage of gall-stones down the duct. In some of these cases, indeed, the enormous gall-stone which causes the obstruction seems to be the first, as well as the last, the unfortunate patient is ever troubled with. Once free in the duodenum (which by the way has been fatally strictured by the chronic inflammation thus set up, long after the stone has left the body) it passes down the small intestine, in its course towards extrusion from the bowels. Rarely, it becomes sacculated in the intestinal walls, and remains thus for years without affecting the intestinal calibre. In a majority of cases, it is in the jejunum or upper part of the small intestine that these stones become impacted; but about one in every five seems to be stopped by the constriction of the ileo-cæcal valve. How many of them safely traverse the whole canal it is impossible to conjecture; but we are entitled to suppose that the successful fugitives are at least half as numerous as those arrested; which latter, by the way, rarely exceed 2½ inches in their longest diameter.

I have never seen a case exactly of this kind; but venture to hope that the information thus briefly put together will render it henceforth easy to distinguish them from all other obstructions. Taken in conjunction with the duration and intensity of their premonitory symptoms; their great pain; their incessant and severe vomiting; the frequent and intermittent attacks which sometimes seem to indicate their being obstructed here and there in their slow passage down the small intestine; and the rapidity with which the last attack sometimes ends in death; they constitute a form of obstruction which, both from its proximity to the stomach, and its other circumstances, exhibits features, to say the least, unusually suggestive of a correct diagnosis of its cause. While, pathologically, they have great interest from the fact, that the diameter of the obstructing gall-stone, as contrasted with that of the intestine above it, seems to indicate either some active muscular contraction at the obstructed part, or



some dilatation above such as requires further elucidation.\*

The *strictures and twistings* which form the second group, affect the large intestine in proportions of 92 and 76 per cent. respectively; on an average of both, 87½ per cent.

The strictures are about 73 per cent. of the whole group. But I have found it impossible to exclude from this class some tumors probably of malignant nature and of external origin, and can only conjecture that this excess would be compensated by the cases in which twisting is produced by a tumor dropping over the bowel or its mesentery. As regards the sex of these cases of stricture, the males are to the females as 3 to 2; and their average ages 43 and 46½ respectively, affording a mean for both sexes of 44½ years.

The frequency with which stricture causes fatal obstruction in the several parts of the large intestine is as follows. Of 100 such cases, 4 are in the cæcum; 10 in the ascending colon; 11 in the transverse colon; 14 in the descending colon; 30 in the sigmoid flexure; 30 in the rectum. In an estimate of the pathological liability of these different parts, it is well to bear in mind that while the shortness of the cæcum renders the above number too small, the greater length of the sigmoid flexure renders it unduly large; so that, for equal surfaces of intestine, there is a much more uniform increase in the liability of the bowel to this lesion as it approaches the anus. But a more practical view may be summed up by the statement, that to bisect the transverse colon in the median line of the body would divide the large intestines into two segments, of which the left one is visited by this form of obstruction four times as frequently as the right.

As regards its symptoms, two points only need be added to what has already been said respecting obstruction of the large intestine generally. One is that, in a majority of cases, there is a history of increasing (sometimes intermitting) constipation, gradually deepening into down-right obstruction during the many months (or even years) which precede the last attack. Sometimes, indeed, the patient's life has already been placed in imminent jeopardy by foregoing obstruction. Sometimes diarrhœa or hæmorrhage are the chief premonitory symptoms; especially where the stricture is caused by a cancerous excrescence. The other is the duration of the malady, which (even including several cases where the operation for relief of the distended bowel seems to have been deferred to a period when it probably hastened death) shows an average of 23 days of complete obstruction prior to this event. The aid to diagnosis sometimes afforded by a digital or

instrumental examination per anum, or by the shape and size of the fæces, requires no special notice.

The twistings of the bowel, which, as frequent causes of obstruction, were first set in their proper light by the researches of Rokitansky, seem scarcely to be influenced by sex, either as regards their number, or the age at which they occur. If anything, they are a trifle more common in the male (13 to 10). In both sexes indifferently, the average age is a high one (54 years); a feature in which this variety of obstruction is curiously contrasted with all the preceding. In nearly one half of these cases, the sigmoid flexure is the seat of lesion. The transverse colon, however, seems less subject to it than the ascending colon or ileum, and scarcely more so (really less?) than the cæcum. In respect to their causes, these twistings seem to differ materially in different cases: tumors, abnormal laxity of meso-colon, and (still more frequently) hernial displacements of other parts of the canal, are the circumstances oftener found in connection with them; and taken in conjunction with the great age of their subjects, go far to suggest a failure of peristalsis as forming at least a frequent immediate cause of their occurrence. Their symptoms may be usefully contrasted with those of obstruction from stricture. The diminished duration of the process (for example) which is reduced from 23 to about 9½ days, exactly corresponds with the absence of those long and marked premonitory symptoms which, in many cases, not only precede obstruction by stricture, but are associated with an effort of Nature to ward off this fatal event. Indeed, some traces of a similar contrast may be seen in these twistings themselves; those due to abnormal laxity of the sigmoid meso-colon being not only associated with a longer duration, and more gradual approach, of the obstructed state, but often showing a degree of chronic hypertrophy and dilatation such as concurs with these symptomatic characters. In most cases, however, the twistings are distinguishable from the strictures, not only by the absence of this tendency to the chronic character, but by an amount and rapidity of inflammation, which still more specifically accounts for the difference, and even permits some of the marked characters imparted to the symptoms of obstruction by its situation in the large intestine, to be obscured by the circumstances which thus regulate the nature and the rapidity of its access. For instance, the obstruction of the twisted colon often destroys life more quickly than that of the strictured ileum; which, again, both as to its premonitory symptoms, and its hypertrophied state, offers a close and instructive parallel with the strictured colon.

Here, then, I end this brief survey of the chief varieties of obstruction from a diagnostic point of view—a survey from which I have reluctantly excluded many curious details, as well as all citation of the numerous interesting cases

\* It is probable that the distention produced by the obstruction is often increased by the cadaveric changes of the intestine and its contents. (Compare the author, "On Ulcer of the Stomach," p. 213.) But even allowing for this increased distention in the necropsy, I should be disposed to regard the obstruction as attributable, in part, to active contraction; to which, however, considering its provocation and its object, I should hesitate to apply the term of "spasm."

which abound in the records of the obstructed state. I can only hope, that the conclusions I have offered, based as they are on a careful analysis of a large proportion of the facts which have hitherto accumulated towards the study of this important group of maladies, will help to justify the proposition which seems to me independently deducible from the narrower (but deeper) information furnished by my own per-

sonal experience—namely, that even in the earliest stage of an intestinal obstruction, we may, in most instances, recognize both its situation, and the group of obstructions to which it belongs.

Some of the chief statistical facts of the preceding Lecture are conveniently summed up by the following Table :—

#### INTESTINAL OBSTRUCTIONS (EXCLUDING HERNIA.)

*Frequency*, 1 in 280 deaths (from 12,000 promiscuous necropsies).

*Varieties*, relative frequency per cent. (from 600 necropsies of obstruction).

Intus-susceptions, external (bands, &c.), parietal (strictures, &c.), torsions } = 100.

Intus-susception, varieties of, per cent. } ileo-cæcal, iliac, jejunal, colic } = 100.

Other Obstructions.	Lesion.	Ratio of sexes.		Average age.	Bowel affected per cent.		Average duration in days.	Per centage of each in group.	Per centage of the two groups
		Male.	Female.		Small.	Large.			
Chiefly (95 per cent.) of small intestine	Bands, adhesions.....	13	15	36	94	6	6	33	60
	Diverticula ilei.....	5	2	22	95(?)	5(?)	6	9	
	Vermiform appendix....	1	1	22	91	9	6	18	
	Ruptured mesentery....	2	1	35	100	..	5	9	
	Other peritoneal lesions..	..	..	..	..	..	..	16	
	Gall-stones.....	1	4	57	100	..	5(?)	5	
Chiefly (88 per cent.) of large intestine	Strictures.....	3	2	44	8	92	23	(2½ omen tum) 9	40
	Torsions.....	13	10	54	24	76	9½	32	

#### PRACTICAL CLINICAL REMARKS,

DELIVERED AT ST. THOMAS'S HOSPITAL,

By SAMUEL SOLLY, Esq., F.R.S.,

SURGEON TO THE HOSPITAL.

#### ON EXCISION OF THE KNEE-JOINT.

Gentlemen,—The subject to which I wish to call your attention to-day is one which is now exciting very general interest in the profession—namely, excision of the knee-joint. When this operation was re-introduced by Mr. Ferguson in 1830, I confess I was very incredulous as to its value. I thought that those cases that would be cured by excision might be cured without it. I had had, as you have heard me say before, several cases of apparently hopeless disease of this joint arrested by the repeated use of the moxa externally and cod-liver oil within; a good firm ankylosis being the result. On the other hand, I have had cases of ulceration of the cartilages which have been carried off by phthisis during the progress of a local cure. But we have yet no proofs that either excision or amputation would have averted such an untoward result.

The facts, however, that have converted me to the belief that excision of the knee-joint is not merely admissible in many cases, but that

it is decidedly desirable, are—first, the time occupied in procuring a perfect cure by ankylosis, which ranges from two to four years in all adults; secondly, that even in the most favorable cases there is a great tendency to a recurrence of the disease; and, thirdly, that the statistics of the cases already published show that the operation is not so fatal as amputation of the thigh.

With regard to the statistics of the operation, you will find some valuable information in a paper in No. II. of "Guy's Hospital Reports," page 275, published April, 1836, by Mr. Blackburn, who was a dresser of Mr. Key's. He says:—"The honor of originating the operation as it is now performed, of basing it on sound surgical principles, and of showing its applicability to several of the large articulations, is unquestionably due to Mr. Henry Park, of Liverpool." In a note, he says, "I am the more anxious to make this statement, because Mr. Syme and M. Valpeau have thought right to treat very slightly Mr. Park's merits. The pamphlet in which this gentleman proposes the operation evinces a candid, reflecting, and enterprising mind. The circumstance of his not having an opportunity of carrying his ideas extensively into practice will weigh little with those who can appreciate the sound argument by

which the proposal is supported. The foresight which predicts the results of an untried measure evinces higher talent than the industry which collects together the evidence of experience. Mr. Pike's honor as a man, and skill as a surgeon, are still proverbial in the scene of his former labors." "This gentleman," continues Mr. Blackburn, "after long reflection and many experiments, was led to believe the operation admissible, and in 1781 performed it on the knee-joint with entire success."

I must not, however, be tempted to quote more from Mr. Blackburn, though I shall avail myself of his labors. The poor fellow is no more, and, judging from this paper, his death has been a loss to the profession, while the intellect it displays and the knowledge it contains reflect great credit on the school of Guy's Hospital, where he was educated.

Mr. Park, of Liverpool, with the modesty which so often attends real talent, did not publish his case directly to the profession, but wrote a letter to Perceval Pott, of St. Bartholomew's—a name well known to you, if from nothing else, from the term "Pott's fracture." This letter was subsequently published by Dr. James Jeffrey, Professor of Anatomy and Surgery in the University of Glasgow, in 1805, with cases by Moreau, of Paris.

His patient was a strong Scotch sailor, aged thirty-three, having suffered for ten years from disease of the knee-joint. The leg was partially ankylosed at a right angle. The slightest attempt to move the leg gave him exquisite pain. "This poor man's sufferings, which had been some time great, were daily increasing, and his health declining in such a degree, that he began to beg to have the limb taken off." This Mr. Park declined, at the same time proposing excision; though, as he says, "I rather wished to make the first attempt on the elbow." Mr. Park excised the knee-joint on the 2nd of July, 1781. "The quantity of bone was somewhat, though not much, more than two inches of the femur, and of the tibia rather more than one inch, which were but just enough to enable me to bring the leg into a right line with the thigh, the previous contraction of the flexor muscles being such as to keep the two sawn ends of bone in contact."

The case was not managed after the operation in the simple way that it is pursued in the present day, and a good deal of constitutional disturbance ensued, with a foul, sloughy sore. Yet, notwithstanding a severe fall, which occurred about seven months after the operation, by which the union was disturbed, he was able to walk about and bear the whole weight of his body on the limb at the end of twelve months from the date of the operation. "This man," says Mr. Park, "afterwards made several voyages to sea, in which he was able to go aloft with considerable agility, and to perform all the duties of a seaman. He was twice shipwrecked, and suffered from hardships, without feeling any farther

complaint in the limb, and was at last unfortunately drowned by the overturning of a flat in the Mersey."

Mr. Park's second case was unsuccessful, but it was not well selected. The publication of Mr. Park's cases elicited the fact that about twenty years previously Mr. Filkin, of Northwich, had performed this operation with perfect success; but, unlike surgeons of the present day, he hid his light under a bushel. In this case, his modesty or indolence, as regards writing, deprived the profession of a valuable fact. Now, let this be a lesson to you, my young friends, to keep records of all your more important cases when you get into practice. I do not want you to rush into the other extreme, of publishing every trivial case that occurs to you, without ascertaining whether there is any real novelty in it or not.

M. Moreau, of Paris, was the first surgeon who followed Mr. Park's example. His cases were published by his son. He operated on the 17th of September, 1792. "At the end of the third month the consolidation of the bones was such that I left the limb at perfect liberty in bed; the patient moved it about at his pleasure," says this celebrated surgeon, but afterwards is obliged to record that the patient was carried off by dysentery; very fairly adding, "This unfortunate accident deprived me of the pleasure of enjoying the fruits of my cure; but I remained convinced of the utility of the operation, and persuaded of the propriety and necessity of performing it in similar cases. I looked upon my patient as cured, for I had no relapse to dread. M. Moreau's second case was unsuccessful; his third recovered with a useful limb.

From Mr. Blackburn, to whose paper I have already referred, I learn that in 1809, Milder operated unsuccessfully. This brings us to cases 8 and 9, operated by Crampton, of Dublin, one only being successful. Cases 10 and 11 were Mr. Syme's; one was successful, and the other fatal. On all these cases Mr. Blackburn makes the following remarks:—"Facts like these require little comment. Of eleven operations, five have entirely failed; one partially, and in the remaining five, though life was preserved, the recoveries were long and tedious. With whatever truth the result of the fatal cases may be assigned to accidental causes, it must be remembered that these accidental causes apply equally to any other operation; and in forming an estimate, it would be unjust to make an exception to the rule which classes all cases not followed by recovery as instances of failure. The excision of the knee-joint is, therefore, a measure against which experience strongly militates."

The operation was now abandoned by the profession for twenty years. The observations of Mr. Blackburn, I have no doubt, made the London surgeons hesitate; and the fact that Mr. Syme, who took up so warmly excision of

the elbow-joint, objected to excision of the knee, of course carried great weight with the profession. Fortunately for humanity, and the onward progress of conservative surgery, Mr. Fergusson had the courage to undertake it in 1850. He was quickly followed by Mr. Jones, of Jersey, Mr. Page, of Carlisle, and Mr. Mackenzie. I must not detain you, in a clinical lecture like this, by further statistical details; but refer you to the excellent monograph of Mr. Butcher, of Dublin; the records of the cases in his own practice by Mr. Humphry, of Cambridge, in the "Medico-Chirurgical Transactions," and Mr. Price's scattered observations in *The Lancet*. In Mr. Butcher's first table of cases occurring between July, 1850, and December, 1854, there are thirty-one, of which only five proved fatal. In his next table, from December, 1854, to December, 1856, he records fifty-one cases, with only nine deaths. The proportion of deaths compared very favorably with those from amputation of the thigh, which, as our records go to the present time, are seldom less than one in three.

Mr. Humphry, surgeon to Addenbrooke Hospital, Cambridge, has published in the "Medico-Chirurgical Transactions" for 1858, an account of thirteen cases, in which he excised the knee-joint. The whole paper is very instructive, and well worthy perusal. Of these thirteen cases, one died, as I believe, from the effect of previous disease; in four amputation was necessary; in the remaining eight, a useful limb was preserved.

At this hospital—St. Thomas's—we are indebted to our senior surgeon, Mr. South, for its introduction into our operating theatre. The success which attended him has encouraged others to follow his example. He has had six cases, with only one death following immediately upon the operation. This was in a female, who lived fourteen days. In another case, death followed, but as the patient lived ten months, the operation cannot be considered the cause. The particulars of these cases will be published at some future time by Mr. South himself. Mr. Clark has also had two cases, the first eminently successful, and the second progressing favorably. I have had three cases; the first was not well selected, as the poor fellow died of rapid phthisis. As far as the operation was concerned, it was encouraging. He experienced immediate relief, and from a state of great suffering was removed to one of comparative ease. The wound was nearly healed at the time of his death, and ankylosis partly completed.

Case 2.—Edward P—, aged six, of strumous diathesis, admitted Jan. 15th, 1859, with ulceration of the cartilages of the knee-joint, and partial dislocation backwards of the tibia. He has been ill for four years, and during that period was in the hospital three times. He attributes his first illness to an injury to the joint. About a fortnight after the injury he says that the knee began to swell, and he was

then admitted to the hospital. An abscess formed and burst, and he partially recovered. He left the hospital, and the leg then became contracted. The abscess formed again twice afterwards, and on each occasion he was admitted to the hospital. On this his last admission, there was a large sinus on the outer aspect, which discharged pus. An abscess again formed, and on Tuesday, Feb. 9th, I excised the knee-joint. (Prior to this period his health had been much improved by good diet and cod-liver oil.) On cutting into the joint, there was found to be a very firm and partially bony ankylosis, which I was obliged to saw through before I could remove the articular ends of the bones. Owing to the contraction of the tendons, it was found necessary to remove about one inch of femur before the leg could be straightened; this was however, done, and the leg was then placed on a M'Intyre splint made with only a narrow sliding bar at the back of the knee-joint, so that it could be dressed without removing the splint. The flap was fastened by means of sutures and adhesive plaster. Ordered five minims of the tincture of opium, as occasion may require; also eggs, two ounces of wine, a chop, and a pint of porter. He slept well for four nights with the sedative draught, after which it was not found necessary to continue it.

Feb. 10th.—The wound is clean; there has been no hæmorrhage; appetite good; bowels open.

11th.—All irritation has subsided; his tongue is clean; bowels open; pulse regular; and he is not in pain.

12th.—The wound beginning to suppurate; the sutures were removed in the evening of this day, and warm water dressing applied.

14th.—Wound healthy, suppurating, and causes no pain; the bandaging was renewed to-day. His appetite, as usual, is good, and he is quite cheerful.

16th.—Improving rapidly; the wound is going on well. In fact, the boy has not had a single bad symptom, and on March 1st the wound had nearly healed, and there was considerable bony union.

March 14th.—Wound healed all but one little spot; enjoys perfect health.

Case 3.—Joseph R—, aged eight, admitted Jan. 8th, 1859, with ulceration of the cartilages of the knee-joint, and also an abscess within the joint. He states that eleven months before his admission he received an injury to the knee. It then began to swell; but no abscess formed at this time. He could not walk, nor bear any percussion on the heel. The leg remained in a semi-flexed position. On admission there was an abscess in the joint pointing at the inner and lower part, which opened. He, however, got worse and hectic; the knee was excessively painful; his countenance indicated great suffering; his expression was very anxious, and he screamed if you even approached his leg with

your hand. Several consultations were held as to the course to be adopted; and, on March 5th, I excised the joint with the approbation of my colleagues. There was extensive ulceration of the cartilages, and large quantities of false membrane in the joint. The abscess had burrowed up the thigh, but the bone was not bare, nor was there any evidence of necrosis. I therefore proceeded with the operation. The leg was placed on a M'Intyre modified splint, as in the above case of Edward P—, and the wound closed by sutures and rollers. Warm-water dressing was then applied. Ordered, wine, four ounces; porter, a pint; eggs, chop, cod-liver oil; and tincture of opium, ten minims, immediately.

March 6th.—Slept well; tongue clean; no pain. The wound looks quiet. There has been no hæmorrhage. Bowels open; pulse regular; appetite good; has lost all hectic symptoms.

7th.—Progressing favorably. The cod-liver oil causes sickness and diarrhoea, and cannot be taken. Otherwise the boy is quite well. He has a good appetite, and is in no pain.

8th.—Going on well. Eats, drinks and sleeps well.

10th.—Progressing favorably; the wound suppurating; no pain.

11th.—Sutures were taken out to-day; the wound has healed nearly all round.

13th.—Progressing most favorably; in fact, he lost all his bad symptoms at the time of the operation, and has never had a recurrence of them since.

15th.—Quite well in health; the wound nearly healed.

Such, then, gentlemen, is the progress of these cases up to the present time. It is now especially that I feel called upon to direct your attention to this important subject. These cases are in progress and you may watch them for yourselves. Nothing, up to the present time, can be more satisfactory, but we cannot consider them as cured. "There is many a slip between the cup and the lip," and it may yet be my duty to report an unfavorable termination, though at present all is *coulour de rose*, and I have no reason to anticipate an unfavorable result.

In the second case, that of Joseph R—, I was afraid of the condition of the thigh bone, from the burrowing of the abscess under the rectus, and took care to obtain the permission of the father of the child, who is a porter at the Great Northern Railway, to convert my operation into an amputation of the thigh, if I found in the progress of it that such a proceeding was necessary.

With regard to the manner in which this operation should be performed, I must say a few words. First and foremost, take care and have your splint prepared beforehand—an iron splint, with a thigh-piece to reach just to the edge of

the buttock, fitting well, when padded, to the posterior surface of the thigh, with an open space behind the knee joint; then fitting, again, well to the calf, with another open space for the heel, to rest on a piece of linen drawn tight across the opening; and a foot-piece which can be shifted. All the padding must be covered with some thin water-proof material, such as gutta percha. Several of the early cases were, I believe, lost from want of attention to the proper and careful adaptation of the limb in the first instance.

The bones should not press much upon each other, but touch gently; sufficiently in apposition to induce bony union, but not sufficient to produce constitutional irritation. Mr. Syme, who has been one of the great opponents of this operation lost his second case apparently from want of attention to these rules. On the sixth day after the operation, he was obliged to cut away two inches more of the femur, and his patient died on the eighth.

Your first incision is to extend in a semilunar direction right across the front of the joint, from one condyle to the other, just below the patella. The curve must be slight; the commencing points parallel, and well over the condyles. This incision should be made firmly, boldly, and quickly, right into the joint. This flap is to be dissected upwards with the patella, thus completely exposing the surface of the condyles. In some cases this is easily done; not so in others, where ankylosis has commenced. The crucial ligaments, if not destroyed, are now exposed, and what remains must be divided carefully on a director, otherwise your knife might slip further than you intended, and, to your great horror, enter the popliteal artery and vein. If your first incision were well carried back on to the condyles, their articulating surfaces are now completely exposed for the use of the saw. This saw should be Butcher's; I mean Butcher of Dublin, not a butcher's saw, as the theatre porter seems to think, from the instrument he has given me. This saw of Mr. Butcher's is one of the most perfect tools I ever worked with. The safest plan is to commence from behind, and to carry it forward over the rounded extremity of the femur till you reach the edge of its articulating surface in front. In this way, and by the assistance of this saw, you remove only a thin slice, including all the diseased articulating cartilages, but without shortening the bone to an inconvenient extent. In like manner remove a slice from the head of the tibia, though of course here your cut will be simply flat, at right angles to the shaft of the bone. This part of the operation is very greatly facilitated by your assistant forcibly flexing the leg, and pushing the head of the tibia well upwards and forwards. The patella must next engage your attention. The articulating surface, whether diseased or not, must be removed by the saw, unless you decide to remove the whole bone, which latter proceeding is strongly

recommended by some operators of great experience. Hitherto I have left it, but in my next operation I shall remove it. I have not had any proof that it retards the healing process, but I am told by those who have operated more frequently than I have that it does so, and that it does not add to the strength of the limb. Having completed your saw cuts, examine the cut surfaces, and observe carefully whether you have removed all the diseased bone, and whether you have opened a sequestral or carious cavity. In the former case, I need hardly say, you must remove the sequestrum; and in the latter, you may use the gouge, to scoop out any carious bone that the saw has left behind. I have advised your only removing a *thin* slice from both femur and tibia to prevent shortening of the limb. This is the rule; the exception occurs when, from long-continued contraction of flexors, you have a difficulty in straightening the limb, in which case you must again have recourse to the saw, as the bones should not be pressed *forcibly* against each other. I have seen no inconvenience from slight pressure.

The operation seldom gives rise to much hæmorrhage. One or two arteries are all that usually require ligature. But all that bleed freely must be secured, as secondary hæmorrhage has, in more cases than one, been apparently the indirect cause of a fatal result. Four or five sutures are usually required. Roll the thigh to the splint with a firm linen roller as far as the knee; leave this uncovered; roll the leg in like manner below, and the foot to the foot-piece. Use no side splints.

All this must be done before your patient is removed from the operating table; and, if done without dawdling—I do not mean with indecent haste—it will be concluded almost before your patient has recovered from the chloroform.

There is no point which has struck me more forcibly in these operations than the great relief from pain which, after a few hours' smarting, they afford to the patient. I usually give a dose of opium about three hours after its completion, and frequently no more is required. Mr. Humphry, of Cambridge, objects to the use of opiates after operations in general. My own experience in a London hospital is decidedly in favor of their use.

I think that all of you who have watched my last two cases must have been struck with the improvement in the countenances of the two little fellows since their diseased joints have been cut out. There is no longer that anxious and distressing expression which was always present previously. Their faces are now bright and cheerful, the color is returning to their cheeks, and, instead of treating me to tears, they always welcome me with a smile.

In conclusion, let me recommend you, gentlemen, to give this important subject your most

careful consideration. Watch for yourselves all the cases that occur in this hospital. Take the opportunity of seeing all you can in other hospitals; for I am sure that you will invariably, in the present day, meet with the courtesy which I hope you will show to strangers when they visit us. Do not be guided in your selection of this operation by the *ipse dixit* of any man, but take all the evidence, all the practical evidence which is offered *pro* and *con*, by those who have had the most experience.

### Original Papers.

#### REMARKABLE CIRCUMSTANCE OCCURRING IN A CASE OF STRANGULATED HERNIA.

By R. BARWELL, Esq. F.R.C.S.,

ASSISTANT-SURGEON TO THE CHARING CROSS HOSPITAL.

It is a common remark, that in every operation for strangulated hernia there is in the condition of parts something different to what the surgeon may have seen before. Most of these slight deviations or peculiarities are not worthy of especial notice; but in the following case there was a circumstance such as I have not only never seen, but whereof I have been unable to find any mention whatever throughout the large number of authors whom I have consulted; and although this circumstance was not calculated to cause uncertainty in the steps of the operation, it is very interesting as a physiological or pathological fact, and therefore worthy to be recorded.

I was asked by my friends, Dr. Julius and Mr. Bird, of Richmond, to perform an operation for strangulated hernia on the 28th of May, 1859. The subject was a rather stout woman, aged sixty-four years; the hernia was crural, rather large, and situated somewhat higher than usual, its greater bulk being above Poupart's ligament. The steps of the operation presented nothing uncommon, except that the sac was so tense that it was with difficulty a piece could be pinched up to incise with the scalpel. When, however, this stricture was divided and turned back, there was disclosed a smooth, semi-transparent mass, of a lightish-red color, which retained perfectly the shape of the hernial tumor. On examining this substance more closely, it was found to consist of a gelatinous matter, firmer in its outer than its inner parts, although not in layers; perfectly colorless, except on its surface, which was stained of a light red. On clearing this mass away, a rather small, tense knuckle of intestine was found at the upper part of the sac. When the very tight stricture was divided, and the hernia returned, a considerable quantity of serum welled forth from the abdomen, showing the existence of an ascites, insufficient in amount to have attracted attention while the patient was lying on her back.

I took away with me a piece of the jelly-like

matter for minute examination. Under the microscope it was seen to consist of a material partly homogeneous, partly minutely granular, containing here and there a few cells, which seemed to be epithelial, also one or two elongated, and apparently in course of development into cell-fibres. On exposing a piece of the mass to a gentle heat, it became white and opaque; nitric acid produced the same appearance; liquor potassæ dissolved the mass, and from that solution a white, flocculent matter was precipitated by an excess of nitric acid.

Thus it was evident that the gelatinous matter consisted of albumen in a peculiar condition, and it appears to me that its formation and presence may be accounted for in two ways:—Firstly, by the simple deposition from the whole effused fluid of its more solid portions into the most depending part of the peritoneal cavity, which in this instance was the hernial sac. Secondly, thus: that while the communication was open between the cavity of the abdomen and the sac, both were filled with the same fluid; but when the stricture closed the passage between these cavities, the serous membrane of the sac, becoming congested, poured forth a thicker secretion; while at the same time, on account of the pressure from within thus established, and of the manipulations to which the tumor was subject, much of the watery part of the serum was absorbed, until the whole fluid was sufficiently concentrated to be capable of gelatification.

The fact of albuminous concretions in serous effusion, when a more active state of congestion in the membrane supervenes, is not isolated. Spots of a jelly-like material are found in the abdominal cavity in most cases of ascites; in cases of hydrops articuli one finds the cartilages slightly covered along the edge of the synovial membrane with such matter; and in strumous inflammations of the joint such a formation seems to be the first step, after simple effusion of fluid, towards the gelatinous or fungous degeneration of the synovial membrane. But I have never before seen or heard of such a large mass of concretion as in this case, where it was in many places at least an inch and a half thick; and it is scarcely likely that such a mass, if left undisturbed, would have been capable of organization, as it seems to be when a similar matter forms with serous effusion in chronic inflammation of joints.

Old Burlington-street., June, 1859.

## ON THE SELECTION OF WET NURSES FROM FALLEN WOMEN.

By C. H. F. ROUTH, M. D.

Mr. Acton, in his philanthropic remarks in favor of this unfortunate class in the community, has suggested the propriety of making use of such persons as wet nurses to families. I believe these benevolent intentions, if fully car-

ried out, would be attended with some of the worst consequences that could be conceived, both socially and morally. The arguments made use of by Mr. Acton are chiefly the following:—Firstly, it would afford an opportunity for the fallen creature to redeem her character; and, placed once more in contact with virtuous persons, would enable her to become again habituated to a course of virtue. Secondly, many of these women are persons of good constitution and of favorable age; and he conceives that if proper care be taken to select cases *free from disease*, in the great majority of instances they would be found very suitable wet nurses.

Giving Mr. Acton all credit for his benevolent intentions, I cannot admit the justice of his conclusions. Firstly, if Mr. Acton confined his observations to that class of women who *once* have gone astray, but whose characters and associations up to that period generally have been good—domestic servants, for instance, with a year's good character, or more—and who through some unfortunate attachment may have been beguiled, I can conceive that his choice would be a wise one; that is, admitting the major proposition, that all other means have been tried, and that all hope of success otherwise than by a wet nurse is nugatory. But where we have to do with one who has made several false steps, the probability is that there is a natural tendency in her corrupt imagination to a fornicating course of life, and that therefore to encourage such a person by giving her the place of a wet nurse would only be to encourage herself and others in a course of sin. Moreover, in the present day, it is a very curious question to consider how far crime is or is not hereditary. The truth that the sins of the fathers are visited on the children to the third and fourth generation may yet admit of partial explanation from investigations of disease. That some diseases of body are hereditary is certain; that some diseases of mind and temperament—as, for instance, mania, and epilepsy—are carried on throughout generations, is also indisputable. It is the opinion of that distinguished psychologist, Dr. Forbes Winslow, that criminal children are often the offspring of mad parents. Now, how is this tendency thus transmitted from parent to child? There can be no doubt as to the reply—through the community of blood. Now when a woman suckles a child she undoubtedly communicates to it the distillation, as it were, of the vital essences of her own blood; and thus it is that if a nurse of confirmed vicious and passionate habits suckles a child, that child is in danger of having its own morality tainted likewise. Older authors were unanimous in their belief upon this point. I may quote the opinion of Julius Cæsar Baricellus, in his work on the Faculty and Uses of Milk. "Hence," he says, "by reason of the received nutriment, children will be affected by the natures of their parents, and will partake of an inclination to the faults and virtues of their



wet nurses. As has been already recorded of Nero, in the 'Hortulo, Geniali,' I have proved that his parents were most benevolent, but that he was suckled by a most cruel nurse; and he killed his own mother. For like reasons, learned men are in the habit of saying, whether truly or purposely, that Romulus was suckled by a she-wolf; and Romulus was certainly of very cruel habits, most passionate, most strong, and most patient of discomfort, as a wolf. It is said, also, that Cyrus was suckled by a dog; the son of Hercules, Telephus, by a stag; Pellias, the son of Neptune, by a mare; Alexander, the son of Priam, by a fox; Agista by a goat, the peculiar manners of which are known. So we know that infants receive their mental inclinations and their temperament, from their nurses, although all these may be modified by the strength of the mind."

Secondly.—Without making use of these statements otherwise than as allegorical, to illustrate a physiological truth, we are all acquainted with the dreadful effects of *sudden* mental emotions in women on children suckled by them,—such as diarrhoea, convulsions, atrophy, and even death. Medical records teem with examples. Dr. Carpenter, in his "Physiology," p. 981, gives two examples where the effect produced was more gradual, yet equally fatal. Moreover, if mental anxieties will affect both quantity and quality of milk, as evidenced to the unassisted senses, it is but natural to suppose that it will also affect its qualities even in those cases where most delicate tests fail to recognize the changes. Certainly, in the case of secondary syphilis and scrofula, very minute doses of mercury in the first, or iodine in the second, are known to effect in time, more or less lengthened, a cure. Dr. Ferris, in his treatise on Milk, published 1785, after alluding to examples of death in infants from sudden emotions in mothers, says (p. 21): "Nor are these accidental circumstances in nursing-women the only sources of disorder in their little and innocent charges; for they often derive from the breast the seeds of the worst disorders (Gregori's Comp. View, pp. 22-40), and carry with them through life the direful effects of the depraved and vicious habits of those who nursed them. Many have held an opinion that not only the diseases of the body, but that the disposition of the mind is also derived in a great measure through the medium of the milk from the mother and nurse. Thus Hoffman asserted that he knew infants particularly inclined to drinking that had been fostered by a drunken nurse;" and he then proceeds to give a case. "Werdig," continues Dr. Ferris, "was so strenuous an advocate for this opinion, that he contended that those infants which are nourished at the breast of a stranger for the most part degenerate; that they are naturalized to the nature of the nurse; that they derive their constitution from the nourishment which they take from her breast; and, through that medium, their disposition

from her temper of mind, &c. &c. Whatever objections may be urged against these opinions, taken in their full extent, still it must be allowed that they are not entirely without foundation." I myself have known two cases: one of a lady suckled by a bad woman, who in youth was full of like bad passions, till converted by the gospel truth; and another of a gentleman suckled by a nurse of strong sexual passions, who has inherited all her propensities.

Thirdly.—Such cases, it may be objected, may be only coincidences; but *analogy* rather disproves than confirms such a conclusion. For instance, there can be no doubt, from such an inquiry, that the instinctive or mental manifestations, as well as the physical or brute force, will be materially affected by the quality and quantity of food taken by different animals. It is notorious that the pig, if fed upon animal food, will become exceedingly ferocious—a peculiarity which will not obtain when the animal is fed upon vegetable food. The same thing is true with regard to game and dunghill-cocks, the diet given to the first being exclusively animal. A bear, kept in the anatomical department of the Giessen University, exhibited a very gentle character so long as he was fed exclusively on bread. A few days after feeding upon flesh he became prone to bite, and was even dangerous to his keeper. Hounds kept for hunting wild and ferocious animals are fed exclusively on animal food, usually raw, which last condition has been stated by some to increase ferocity to a greater degree than cooked meat. Many granivorous birds become during the breeding-season carnivorous, this peculiarity appearing to be necessary fully to develop the peculiar procreating propensity. If we turn to Scripture, we there find, that in speaking of the millennial ages, when peace and innocence shall prevail throughout the creation, the lion is said to eat grass as the ox. This evidently implies, that with the quality of the food so the external manifestations are influenced. But this is true of nations also. As a rule, the herbivorous nations, such as the Hindoos, possess none of that daring ferocity of the carnivorous Mussulmans. But even amongst the carnivorous nations it is so also. Compare the treacherous and cowardly Spaniard with the enduring, courageous Saxon; the savage North American Indian with the lethargic South American. And even amongst ourselves in the three kingdoms, compare the impetuous Irishman with the courageous and firmer Englishman, and the cold-blooded, enduring Scotchman. Then contrast these severally with the French and the Russians. What distinctive characters in each! Liebig has, indeed, pointed out the peculiarity of different kinds of food upon the individuals of the same nation. It is certain, says he, that three men, one of whom has had a full meal of beef and bread, the second cheese and salt fish, and the third potatoes, regard a difficulty which presents itself from entirely different points of

view. So, also, climate deserves mention as influencing character of the same manifestation, for instance, the inhabitants of warm climates are, as a rule, less energetic than the inhabitants of cold climates. This no doubt is very closely connected with the characteristic already formed, since it was noticed that the English workmen and navvies who worked on the French railway, but who continued to live in the same way as they had done in England did more work, and were far more enduring in their endeavors, than were the French laborers, who continued to feed after their own fashion; the former living on good bread, meat, and beer, the latter upon sour wines, *pain bis*, and vegetables.

Fourthly.—Upon these several points, which have been referred to as to the influence of food on the character of adults, it is not to be supposed that there will be much difference of opinion. But now the question presents itself for inquiry—How far does the food taken from a woman (allowing that it could influence a child during the time that it was sucking) influence the full grown adult, who from the period of weaning to that when he became a man had lived upon food of different kinds? To this question I would reply, that from the period of birth to the age of three years the child usually attains half its growth, so that at three years old it is usually half as tall as it will ultimately become. During the suckling period, therefore, (which, upon an average, may extend over a year,) when its growth is most rapid, and when, if I might use the expression, the fundamental cells, the foundation of its future existence, are laid down, *then* it is that any poison, or defective construction in the same will take its rise; and no care, however great, humanly speaking, taken in the putting together of the super-structure, can be expected in anywise to do away with the original evil. Like a carcinomatous growth, once the morbid cell has been developed, it will impart its nature to surrounding parts, and poison the whole blood. So far, therefore, the whole analogy of nature proves that it is possible to sow a seed in the infant which shall contaminate the life of the man, taint his whole constitution, and influence his psychical power.

It may be inferred from the foregoing, that I argue too much as a materialist, and conceive that there is too close an analogy between mind and matter; but I wish here distinctly to be understood as entirely disclaiming anything like materiality in the soul. Yet, in order that the manifestations of any soul should be intelligibly conveyed to the external world, it is essential that the conveying medium—the *brain*—be functionally and organically whole in all its constituent parts. Take, for instance, the case of the eye. There may be *long* or *short-sightedness*,—there may be *double vision*,—there may be *partial* or *entire blindness*; but, in all these cases, the soul is not necessarily diseased

because the sight is affected. Again, in some cases of mania, there may be illusions on one or two points, and yet perfect integrity in all other mental actions. A want of *phosphorus* in the brain—a deficiency of the blood globules—a poison circulating in the blood, will frequently produce mental incongruities, and yet the soul is intact; so, likewise, there may be in the minutest cell-growths peculiar deficiencies or characteristics which (although not to be detected by the best known tests, whether psychical or physical) may yet exist in an organism, and so far vitiate its manifestations.

Lastly.—How few of these bad characters are there who have not at one time or other of their lives suffered from those syphilitic diseases peculiar to their class. How few have not contracted habits of swearing, intoxication and dishonesty; and how few are there who, if the occasion again offered and proved remunerative, would not gladly revert to their bad habits. What dependence could any one have on such a woman that she would care properly for a child? It is true that sometimes even the most degraded may be restrained in their vicious course by strong affection for the little innocents that hang upon their breasts; and the power of religion can even soften the heart of the most depraved creature upon earth. But to hold out a premium for crime upon the bare chance of such a conversion is fraught with the greatest danger, and is only after all, doing evil *palpably*, in order that good may come out of it *possibly*. Except, therefore, in a case of *extreme necessity*, and where the life of the child can only be saved by employing a wet nurse, and where none other can be found but a fallen woman, I hold it is a gross moral and social wrong to employ such a woman as a wet nurse. But I conceive that one of the greatest difficulties that a medical man has to encounter is the judicious selection of a wet nurse. I do not wish again to refer to those points of, which I have elsewhere spoken—viz., the appearance of the milk, the age, temperament, &c., of the nurse; but I know from experience that where you have to do with a woman of bad character (particularly if she has been confirmed in her vicious habits), do what you will, you cannot obtain from her reliable information, either as to her own antecedents or those of her family. It is not likely that a woman who has obtained her livelihood by the sacrifice of every principle of virtue (except only she be a converted person), will hesitate to assert the most deliberate falsehoods when, by so doing, she will obtain a remunerative occupation, and one which may place her in a household in the highest possible position in which she can be, albeit nominally a servant, in a wealthy establishment. If this be so, it only points out the tremendous importance of selecting a wet nurse who shall be as healthy in *mind* as she is in *body*. If, therefore, fallen women are to be employed as nurses at all, let them do the menial work in large hospitals or

prisons, under proper, kind surveillance, but as wet nurses they will never do.

### WOUND OF THE PALMAR ARTERY,

TREATED SUCCESSFULLY BY PRESSURE OF THE BRACHIAL.

By HENRY OBRE, Esq., F.R.C.S.

THE LANCET gives the report of a case, at St. George's Hospital, of wound of the palm of the hand, the hæmorrhage from which being uncontrolled by pressure at the wound, at the seventh week the radial and ulnar arteries were tied, and that not proving successful in arresting the bleeding, on the 53rd day the brachial was ligatured, but with no better result, and the arm was amputated at its upper third two days after the latter operation. Having some years since taken considerable interest in the treatment of those particular wounds, I read a paper at the Harveian Society on their treatment by pressure on the brachial, and hope that the publication of the following two cases may lead to a trial of my treatment before any operative procedure be had recourse to in future:—

Case 1.—Susan L——, aged fourteen, on the 10th of July, 1846, fell when running in the Park, and wounded the palm of the right hand with a pointed flint stone. The bleeding was so severe as to require her immediate application to a surgeon, who bound up the hand, placing a compress on the bleeding point. At the end of three days, on removing the dressings, a pulsating swelling occupied the wounded part. The same treatment was continued till August 10th, when the surgeon advised her removal to an hospital. I now saw the child for the first time. The swelling, which was of the size of a chestnut, was situated in the median part of the palm, between the ball of the thumb and transverse line of the hand. The cut occupied the apex of the tumor, and a dark coagula filled the wound, the edges of which were slightly gangrenous; the epidermis of the palm was loose and dark, and, with the decomposed blood, produced an unpleasant fetor; the pulsations of the tumor were distinctly visible. Pressure on both the arteries of the forearm at the same time, stopped the action in the aneurism, on one alone only had the effect of lessening the pulsation. Compression of the brachial was also found to control the action in the swelling. I bandaged the fingers separately, placed a large lint pad over the swelling, enclosed it in the bandage which surrounded the hand, and carried the bandage up the arm, placing compresses on the radial and ulnar arteries near the wrist.

On the 11th the pulsations in the swelling were lessened, apparently by a deposit of fibrin under the integument.

12th.—The pulsation has in some degree re-

turned, with a slight bleeding from the wound. A tourniquet was applied on the brachial, about its lower third, and arranged so as to press on the artery only. Directions were given to keep up the pressure with the tourniquet as long as it could be sustained; then to be gradually loosened, and again tightened, with a view of diminishing the circulation and its force in the tumor.

15th.—This treatment has now been continued for three days with most marked improvement, all pulsation having disappeared. The swelling is becoming firm from the deposit of fibrin, and there is every prospect of a speedy recovery. The patient, suffering a great deal of inconvenience from the continued pressure, imprudently removed the tourniquet; about an hour after which the bleeding returned, and had it not been for her previous knowledge in the application of the pressure to the brachial, she would no doubt have lost a very considerable quantity of blood. I immediately opened up the swelling, emptied its contents of fluid and solid blood, and made a long and fruitless attempt to secure the wounded vessels, the blood coming from all parts of the cavity at the same moment obscuring the bleeding points. The cavity was now filled with lint, covered with a thick pad, and firm pressure applied by means of two pieces of wood placed transversely across the hand, and their extremities tied together. The tourniquet was also replaced on the upper arm.

18th.—The pieces of wood were now removed, and a simple bandage substituted.

In a few days the wound had granulated. The brachial pressure was continued until the parts had quite healed. The hand eventually quite recovered its powers.

Case 2.—J. D——, a dairyman, aged thirty-five, while cleaning windows, cut the palm of the right hand with broken glass on the inner side of the flexors of the little finger. There was extensive bleeding at the time. A surgeon enlarged the wound, with a view to tying the wounded vessels, but did not succeed in so doing. He removed some pieces of glass from the wound, placed a pad of lint on the part, and secured it with a tight bandage. In a few days the bandage was removed, the cut found healed, and the hand considered well.

August 27th, 1857.—I saw him for the first time. The region of the cicatrix was swollen to the size of half a walnut, circumscribed, pulsating, and painful on pressure. He says he has felt a degree of stiffness in the hand ever since the accident. I opened the aneurismal tumor for the purpose of securing the wounded artery. In doing so the knife grated against a hard substance, which proved to be an irregular-shaped piece of glass, about two inches long, and a half an inch wide. It being impossible to discover the bleeding points, the wound which was very deep, was filled up with fragments of lint, and a compress applied, secured by pieces of wood, as in the former

case. A tourniquet was also placed on the brachial at its lower third.

The hand went on favorably, with no appearance of bleeding, until the 3rd of September, on which day he walked about three miles from home, when the bleeding suddenly returned in the street. He went to the nearest surgeon, who cut down on and ligatured the radial and ulnar arteries immediately above the wrist. This treatment only arrested the bleeding for a short time. It returned again in about two hours, when I again replaced the palmar pressure, but discontinued the tourniquet on the upper portion of the arm.

The patient went on favorably until the morning of the 9th, when the hæmorrhage returned, and continued to do so several times during the day. The propriety of placing a ligature on the brachial was now considered; but the integument on the palm of the hand being inclined to slough, I was fearful, if the three main arteries of the arm were completely obstructed, that the man might lose his hand from gangrene. I determined to obstruct the passage of the brachial artery by the tourniquet for a few hours at a time, and then continue the pressure as long as he could bear it. One recurrence of bleeding only took place from this time, and that was when he had the tourniquet taken off in consequence of swelling of the arm. In a few days the wound, which was dressed with water-dressing, granulated and healed up entirely, but with great loss of power in the whole hand, which was eventually restored by electricity.

Melcombe-place, Dorset-Square, 1850.

#### REPORT OF A CASE OF ARM PRESENTATION, TERMINATED BY SPONTANEOUS EVOLUTION.

By HENRY MADGE, M.D.

I am enabled to add to the case which has appeared in *THE LANCET* another instance of "spontaneous evolution." It came under my notice a few days ago.

When I first saw the patient, she had been in labor about twenty-four hours, a midwife having been with her nearly the whole of that time. On examination, I found the body of the child occupying the pelvis, the left shoulder pressed up against the pubes, and the arm protruding. The child appeared to be lying on its left side, and was so low that every pain forced out the abdomen and loins, in the form of a rounded mass, not unlike the fetal head, nearly to the verge of the vulva, but always to recede again on the cessation of pain. The midwife told me that the pains had been strong and regular for upwards of twelve hours; that at one stage of the labor the arm had been hanging lower than at the time I made my first examination, and, as she had never seen such a case before, she

"didn't know whether it was best to pull at it or not."

The patient, from having overheard certain whisperings in the room, was in a state of great alarm. The pains continued; turning was out of the question: but in a little while I had reason to hope, from the way in which the position of the child was changing, that delivery would take place by spontaneous evolution. Gradually (and I could not help admiring this beautiful adaptation of means to ends) the child seemed to turn quite on its back, with the head on the pubes, face looking backwards, arm drawn further within the vagina, and the breech, if it could find room, prepared to sweep the perinæum. After waiting a considerable time, fearing the perinæum, from constant pressure, would become congested, and appearing little disposed to distend itself, I was about to leave the patient for a few minutes to get a blunt hook, with the view of making an attempt to bring down the breech, when, fortunately, during a strong pain, it was forced beyond the vulva. The stretching of the latter was carried to an enormous extent, and fortunately without serious injury. The head came without difficulty. The child was born at the full period, medium size, and looked as if it had been crushed to death. The mother did well.

About a month ago I was called to a case of arm presentation. A midwife had been in attendance several hours, but she scarcely knew what was going on. With considerable difficulty I succeeded in turning the child, and the case did well.

These cases furnish additional proof of the necessity of obliging all midwives to undergo a regular course of training and instruction.

Howland-street, Fitzroy-square, June 1850.

#### ON RETROVERSION OF THE UTERUS AND RETENTION OF URINE.

By MAURICE G. EVANS, Esq., M.R.C.S.

Two cases of retroversion of the uterus, with retention of urine, have very lately been published in *THE LANCET*. Their treatment has appeared easy and successful, presenting but little difficulty in restoring the displaced uterus to its normal position. Two cases have also fallen under my observation during the past three months. The first was that of a married woman, aged twenty-six, and between the third and fourth month of her second pregnancy. On getting out of bed in the morning, she found herself perfectly unable to pass a drop of urine. A heap of domestic remedies were resorted to, such as warm baths, fomentations, broom tea, &c. but without avail. At ten P. M. I saw her. The bladder was enormously distended, and very sensitive to the touch. Suspecting, from the history, that it was a case of retroverted womb, I made a vaginal examination, and found the fundus low down in the pelvis, almost at the out-

let; the os beyond reach. I introduced a catheter into the bladder without any difficulty, and drew off a large chamber-utensilful of high-colored urine. Gentle pressure now applied upon the fundus sufficed to replace the organ. I then gave her an opiate, and left her comfortable. However, after a lapse of seven days, I was again sent for, and also on two subsequent occasions, seven days intervening between each attack of retention, and the uterus each time being easily replaced.

The second case was that of a married woman, aged forty-four, advanced to between the fourth and fifth month of gestation. While stooping for the purpose of milking a cow, she suddenly felt as if something moved (as she described it) in her inside, became faint, and was carried into the house and placed in bed, where she soon rallied. A few hours after, on endeavoring to micturate, not a drop of urine would flow. She underwent similar treatment to the first case, with the addition of copious draughts of gin-and-water. I saw her the following morning, twenty-four hours after the occurrence. The bladder was distended to its greatest limit, and exceedingly tender and painful. Some difficulty was experienced in passing the catheter, which gave exit to a small washhand-basinful of urine. I now endeavored to rectify the uterus, but signally failed; all that could here be felt was the enlarged fundus. The bowels being rather constipated, three doses of castor oil were given during the day, which operated but feebly. I again visited her at the end of forty-eight hours, and found her much the same as previously. I could not get the uterus to move an inch; the catheter passed more readily. An enema was now administered, which acted in the course of twenty-four hours, well relieving the bowels. The bladder was emptied a third time, after which the uterus became movable. I passed two fingers of the left hand into the rectum, and made pressure upon the fundus of the uterus, hooking down the hitherto unreachable os with the forefinger of the right hand, and without much difficulty it returned to its natural position. The woman was kept in bed for a week, at the end of which time she was convalescent.

In the first of these cases, an over distended bladder appears to have been the primary cause of mischief, this distension taking place during sleep. But in the latter, the uterus becoming suddenly displaced produced the secondary effect of retention. As both advanced in pregnancy, the liability to a repetition became less, and finally impossible.

## ON THREE CASES OF MEDIAN LITHOTOMY:

WITH REMARKS UPON THE OPERATION.

By CLAUDE WHEELHOUSE, Esq., M.R.C.S.,  
SURGEON TO THE LEEDS PUBLIC DISPENSARY, AND LECTURER ON  
ANATOMY AND PHYSIOLOGY IN THE LEEDS SCHOOL OF MEDICINE.

In accordance with a request expressed a short time ago by Mr. Allarton, that those surgeons who had performed "median" lithotomy would publish their cases, I desire to place the three accompanying ones on record, and at the same time to remark upon some points which strike me as worthy of notice with regard to the operation itself.

In deviating from the beaten track with regard to an operation so serious in its nature as lithotomy, and so frequently fatal in its results, it behoves the surgeon to consider well the proceedings he is about to adopt, that he may not be led by the fear of dangers, which are undoubtedly great, into the perilous position of attempting a new and untried method of procedure, by which those dangers, instead of being obviated or diminished, may possibly be materially increased.

It will be accorded that the "lateral" method of performing the operation of lithotomy is generally acknowledged to be the best; yet no one can for a moment deny the fact that, even in the hands of the most skilful surgeons, the dangers to be met and the difficulties to be overcome in that operation are both many and great, and that the practical surgeon is bound, if possible, to lessen both the one and the other. Such an attempt has been made by Mr. Allarton, the author of "median" lithotomy; and it remains for time, and the statistics of future operations, to prove whether the conclusions at which he arrives are false or true. Meanwhile, those who may have been induced to perform the operation will be rendering good service to surgical science by placing on record the histories and results of their cases.

That many of the evils to which the lateral operation is liable, and some from which it is *inseparable*, are obviated by the median, can no longer be doubted; but whether these advantages are more than counterbalanced by others peculiar to the new operation, remains yet to be proved. Experience has shown that there is far greater power of dilatation inherent in the prostatic urethra than was formerly supposed, and it is upon this property that the superiority of median over lateral lithotomy will be found to depend. The structure of the prostate body points to the probable explanation of this property. The microscope has revealed that, so far from being truly glandular in its structure, very little real gland tissue is found in it as compared with involuntary muscular fibre. Jones, Kölliker, Ellis, and Thompson all assert that it is largely composed of this tissue, Professor Ellis further asserting that it has probably a direct sphincteric action on the contained urethra. Surgeons are well aware of the great extent to

which involuntary muscular fibre will dilate under steadily-applied pressure, and, such pressure being removed, how readily it will again contract to its normal condition.

Before performing median lithotomy for the first time, I was afraid less this great dilatability of the prostate might have been over estimated; and it was not until I had many times satisfied myself, by observation on the dead body, as to the fact, that I ventured to trust to it in the performance of an operation on the living. I have now no hesitation in asserting my belief that calculi of very large dimensions may with safety be drawn through a dilated prostate. I have seen one, of which the following are the dimensions and weight, which has been so withdrawn by my friend Mr. T. Pridgin Teale, junior, without apparent injury:—Length, 2½ inches; breadth, 1½; long circumference, 7 inches; short circumference, 5 inches; weight, 3 ounces and one drachm.

Moreover, the rapidity with which the dilated prostatic urethra subsequently contracts to its original dimensions, is very remarkable. In very few seconds after the removal of even large calculi, I have found it so contracted as not to readmit the passage of the finger into the bladder, except under the influence of renewed dilating pressure.

Few practical lithotomists will be found to deny the fact, that the success or otherwise of their operations has, in great measure, depended on the extent to which they have found it necessary to incise the prostate, and that the chief source of danger against which they have had to guard has been the *total division* of that body, and of its capsule. If, therefore, we find that the prostate is sufficiently dilatable, *without any division at all*, to allow even large calculi to pass through it, and that the urethra may be scooped as to allow us thus to extract them, one main danger of lithotomy is overcome.

But neither is this too free division of the prostate the only source out of which, in lateral lithotomy, the danger of urinary infiltration may arise. The sphincteric fibres of the prostate being divided, all control is lost, for the time being, over the contents of the bladder, and the urine continuing to dribble through the wound for many days, is unceasingly in contact with its cut edges, rendering the patient still further liable to the same danger, should healthy lymph fail to be thrown out over their surfaces.

By reference to the accompanying cases, it will be seen that by median lithotomy this second source of peril is also removed; for it is worthy of observation that immediately from the time of the operation, the neck of the bladder being uninjured, the patient possesses perfect control over that viscus—can empty it at will, and in stream—and that, having done so, he can be washed and made clean and dry, and thus be kept perfectly comfortable between each act of micturition; and furthermore since the poste-

rior layer of the deep perineal fascia remains undivided, it must so guard the areolar tissue of the pelvic cavity from infiltration *during* the evacuation of the bladder as to render that accident almost impossible. Again the liability to subsequent erysipelas is greatly lessened by the fact that the patient occupies a clean, *dry* bed, instead of lying for many days in sheets saturated with decomposing, and therefore ammoniacal, urine. If the operation be carefully performed, it is hardly possible to wound either the rectum or the artery of the bulb—impossible to wound the pudic artery; and though there may be some considerable amount of hæmorrhage from the prostatic venous plexus, this will not often be such as to give rise to serious apprehension or alarm. So far, its results in the hands of our Leeds surgeons have been very encouraging: only one death has occurred in seventeen operations.

Case 1.—June 30th, 1858.—C. O——, aged seven years, a puny, ill-grown boy, presenting all the appearance of one who had long been the subject of great suffering, thin, cachectic, and scarcely able to move about, was shown to me as the subject of stone; and on passing a sound into the bladder a calculus was readily detected. His sufferings during and after micturition were described as so great as to render the child an object of commiseration by his neighbors, and such as to lead his mother willingly to accept the risk of any operation by which they might be relieved. On careful examination, the urine was found free from any condition contra-indicating the operation of lithotomy, or leading to the supposition of any disease of the kidneys; and since the bladder was also believed to be free from morbid change, the operation was decided upon. A dose of castor oil at bed-time, and an enema of warm water on the following morning, were the only preparation required; and on the 30th of June, I proceeded to operate by Mr. Allarton's "median method," the child being first placed under the influence of chloroform.

A curved staff, grooved on its posterior aspect, was passed into the bladder, and held by an assistant firmly hooked up against the pubes. The forefinger of the left hand was then passed into the rectum, and allowed to rest against the apex of the prostate, and with this finger the staff could be felt entering that body. A long, sharp-pointed knife was then made to enter the perinæum immediately in front of the anus, and passed deeply towards the groove in the staff into which it was directed, at the apex of the prostate, by the finger in the rectum. The membranous urethra and tissues of the perinæum were then laid open by one sweep of the knife, from behind forward, to the extent of about an inch and a quarter. A probe was next passed along the groove into the bladder, and the staff withdrawn. On then passing the oiled finger into the wound, it was found to pass with the most perfect ease through the prostatic

urethra, and the stone was felt at once. It was readily seized by lithotomy forceps passed in upon the finger, and extracted by one or two semi-rotatory movements without the smallest difficulty.

Very little blood was lost during the performance of the operation, and the child was placed in bed before the effect of the chloroform had passed away. The calculus was a phosphatic one, pear-shaped, seven-eighths of an inch long, six-eighths broad, and five-eighths deep.

Eight p. m.—Has been restless and feverish since the operation at three p. m. Has passed urine twice, the second time as much by the urethra as by the wound. Has had perfect control over the bladder, and has each time emptied it voluntarily and in a stream; there has been no dribbling between the efforts. Was asleep when visited; the sleep calm; countenance placid; pulse 140, soft and compressible. Has had no vomiting nor other unpleasant result from the chloroform; has complained of some slight and fugitive pain in the abdomen. Awoke whilst I was with him, and was very cheerful, though still complaining of some abdominal pain. To take a small dose of castor oil.

July 1st.—Eight a. m.: Has passed a comfortable night, and taken his food well; bowels have moved freely; abdomen soft; and free from pain; pulse soft, 120. He has emptied the bladder several times both by the wound and by the urethra. Is cheerful, and free from any unpleasant symptom; no dribbling of urine. —Eight p. m.: Has passed a comfortable day; is free from pain and feverishness; has taken his food well; urine continues to be discharged both by the natural passage and by the wound.

For the few following days the child was confined to his bed, though able to sit up and play in it; for two or three days the urine was voided principally by the wound, but by the end of the week was flowing wholly through the urethra, and on the tenth day he was permitted finally to leave his bed. No single unpleasant symptom occurred during his whole convalescence. His recovery was perfect, and by the close of the third week the wound in the perinæum was healed.

Case 2.—October 5th, 1858.—H. T——, aged five years, another very delicate child, and much worn down by suffering, also presenting all the symptoms of stone, was brought to me some months ago, and I then recommended the removal of the calculus by operation; but the mother was at that time too apprehensive for the safety of the child to yield her consent. She stated that some months previously he had been examined at the infirmary, and pronounced to be the subject of stone; that the operation had been then recommended, but, as now, declined. A week or two ago, finding that the little fellow's sufferings were gradually increasing, she again brought him to me. On the former occasion I

had passed a sound into the bladder, but, on account of the struggling and screaming of the child, had not been able to satisfy myself in any way, beyond the simple fact of its presence, as to the nature of the stone. I now, therefore, placed him under the influence of chloroform, and was able to make a much more satisfactory examination, and further ascertained that the stone was only a small one, and that the bladder was in a tolerably healthy condition. I again proposed to relieve him by lithotomy, and consent was this time accorded.

The steps of the operation were precisely the same in this as in the former case, and the stone was extracted with as great or even greater facility; for, being very friable, it in part gave way under the pressure of the forceps. I was much struck by the ease with which the neck of the bladder dilated under the pressure of the finger, no other instrument being necessary so far to open it as readily to admit the passage of the forceps and withdrawal of the stone. The hæmorrhage arising from the operation was very trifling, and, being under the influence of chloroform, the child appeared to suffer very little. On being visited in the evening, he was found perfectly free from the ill effects of chloroform, though it was a considerable time after being placed in bed before he recovered from its influence.

Oct. 6th.—Countenance calm and placid. He has passed a comfortable night; is free from feverishness; bowels have moved spontaneously; appetite good; he asks for his food and enjoys it. Pulse small, 160 morning, 140 evening. He possesses voluntary control over the bladder, and passes urine in stream at regular intervals and as the result of desire; there has been no dribbling from the first. It is discharged in part by the wound and in part by the urethra. He complains of a good deal of pain both before and during its passage.

Oct. 7th.—Still doing well, but exhibiting a general want of power. Is very pale and fragile in appearance. He has again passed a comfortable night, the bladder emptying itself at regular intervals of about two or three hours. He possesses perfect control over the organ, and has been free from the inconvenience of the constant dribbling, the result of the lateral operation. The pain on micturition has much diminished. The urine flows away equally by the wound and by the natural passage. He is free from fever; the body is soft and free from pain; the tongue clean; pulse 120, soft, and very feeble. The diet to consist of beef-tea, arrow-root, and sago; a little white-wine whey, or wine and water; to be also given from time to time.

8th.—Has had a rigor during the night, and screamed a good deal this morning before passing his urine, which came away entirely by the wound. Otherwise the child seems doing well. The pulse is still calm, and free from irritability. The bowels have acted well, and he still asks for and enjoys his food. The control over



the bladder remains perfect. To continue the nutritious diet, and rather increase the quantity of wine.

For a couple of days the child continued much in the same condition, his progress towards recovery being very slow; then came a small discharge of pus from the wound, followed by relief in the passing of urine, and improvement generally; the urine, however, still continued to flow by the wound, and was somewhat ammoniacal. On the tenth day from that of the operation, it again began to pass by the urethra, and from that time continued permanently to do so. The progress of the child, however, was still slow; and it was not until the twentieth day that he was out of bed and moving about the house.

CASE 3.—Feb. 8th, 1859.—B. S—, aged fifty-seven, a stout, plethoric, dark-complexioned man, much accustomed to out-door exercise, has suffered from symptoms of stone for the last two or three years, but has steadily refused to submit to any operation for the removal of the calculus. I was some little time—after satisfying myself, as far as I could do so from symptoms alone, of the presence of a stone—before I could induce him to allow me to pass a sound into the bladder; but on being permitted to do so, had no difficulty in detecting a hard, clear-ringing calculus, of apparently no great size. Seeing that he was in all other respects a healthy man, I strenuously recommended its removal by lithotomy, but no arguments I could use were at that time sufficient to induce him to submit to the operation. But as time wore on, and his sufferings increased, interfering more and more with his occupation, his visits to me became frequent; and when at length he found himself altogether unable to move about, he reluctantly gave his consent.

I performed the median operation, and with as great success as in either of the former cases. Being a very corpulent man, and the depth of the perinæum being too great to admit of my being able clearly to define the groove in the staff with the forefinger of my left hand in the rectum, I did not attempt in my first incision to open the urethra, but was content to sink my knife to the apex of the prostatic body, and from that point freely to divide the external tissues of the perinæum from behind forward to the extent of about two inches and a half. I then sought cautiously for the groove in the staff with the finger introduced into the wound, and opened the membranous urethra by a second incision. A bulbous sound having now been carried along the groove into the bladder, and the stone been struck by that, the staff was removed, and the forefinger of the left hand, well greased, was passed upon the sound into the prostatic urethra, but was not found sufficiently long to reach the bladder. Having dilated the prostatic urethra to such an extent that the forefinger would move freely in it, I next passed a Weiss' three-bladed dilator, and found no difficulty in effecting much further and more free dilatation. With the

blades of this instrument open, I then passed the lithotomy forceps through it into the bladder, and came in contact with, and seized the stone. The smallest possible amount of traction was sufficient to bring it through the prostate. Its measurements when extracted were found to be—length,  $1\frac{1}{2}$  inch; breadth,  $1\frac{1}{2}$  inch; depth  $\frac{3}{4}$  inch.

During the operation there was somewhat smart hæmorrhage from the bottom of the wound, and, as it continued after the removal of the stone, I felt it necessary to remain a little while with my patient. Finding that the power of control over the bladder would be retained, I had no hesitation in lodging a soft sponge in the wound, and, on removing that at the end of a couple of hours, the bleeding was found to have been entirely arrested. No urine was passed until at least an hour after the removal of the sponge, and the bladder emptied itself by a few vigorous contractions of about three ounces of urine, freely intermingled with blood from the wound. When visited in the evening, the patient was found to be in all respects doing well.

Feb. 9th.—He has passed a restless night, but is comfortable this morning. His general aspect is calm and good. Pulse 78; skin soft and supple; he has no fever; the urine is discharged altogether by the wound, and is voided at regular intervals of two hours.

10th.—In all respects as well as yesterday. He has less pain in passing urine, and has perfect control over the bladder; takes his food with enjoyment, and is free from any unpleasant symptom whatever.

11th.—During last night he had a rigor of half an hour's duration, and perspired violently after it. He was much alarmed at this, and has consequently not been able to sleep. This morning he is quite comfortable again: has passed urine twice by the urethra; takes his food well; and is reassured as to his condition. Pulse 75; skin cool and soft; tongue cleaning; bowels somewhat confined. To take a small dose of castor oil.

12th.—In all respects improving. The urine is now being discharged in equal proportions by the wound and by the urethra.

From this time a daily report becomes unnecessary. Nothing occurred to interfere with speedy and entire recovery; and the patient is now, and has for some time been, enjoying himself in the country before buckling down to his ordinary, somewhat laborious occupation.

East Parade, Leeds.

# REPORT OF A CASE OF ACUTE SPINAL MENINGITIS.

By W. E. C. NOURSE, Esq., F.R.C.S., Brighton.

JUNE 25TH, 1858.—A married woman, aged about thirty-eight, tall, large, and dark-complexioned, complained of severe pain in the loins and abdomen; great superficial tenderness over

most parts of the trunk and shoulders, and sensation of "a lump" in the throat; micturition painful; bowels confined; pulse small and weak; skin cool and clammy. Appears nervous, fidgety, and anxious about her case. Has been ill nine days, with pains about her, distress, and occasional short rigors. Had rigors yesterday. The attack came on after getting wet through in very heavy rain. Has had much anxiety lately, and has been "nervous" and out of health for some time. Ordered, compound tincture of senna, one drachm; jalap powder, two grains; tincture of *hoyoscyamus*, one scruple; ammoniated tincture of valerian, half a drachm; camphor mixture, an ounce and a half; every four hours.

26th.—Bowels not moved; pain and deep-seated tenderness in the abdomen; knees not drawn up. Pain in the loins increased, exactly central, passing through to each groin, and running several inches down the front of each thigh. Pain on micturition; urine scanty, and red; pressure over each kidney causes no increase of pain; skin cool, perspiring; pulse small; tongue furred. I ordered an *assafœtida* enema, and a full dose of calomel and *colocynth* directly.—Six P. M.: More pain; nausea; great distress and irritability; bowels not moved. The enema to be repeated, and a full dose of castor oil taken.—Eleven P. M.: Still no action of the bowels; bilious vomiting; no hernia; pain extreme and constant, most severe in the upper part of the sacrum, where there is a puffy, acutely tender spot, discolored with superficial veins; no pain or tenderness over either kidney; deep-seated pain and tenderness in the abdomen increased; superficial tenderness of the skin as yesterday; no sign of fever; pulse small; skin cool; face bedewed with sweat; distress and anxiety excessive; a peculiar helpless look about her; very slight tingling in the feet. I had her cupped on the loins, but only three ounces of blood could be obtained; and gave her six grains of calomel, four grains of James's powder, and one grain of opium.

27th.—Pain partially relieved by the cupping last night, but now as bad as ever. No action of the bowels; frequent vomiting, with intense distress and anxiety. Ordered twelve leeches to the sacrum, a common enema directly, and to be repeated in two hours.—Evening: Pain much relieved by the leeches; no action of the bowels; other symptoms much the same. The following pill to be taken immediately, and repeated every five hours afterwards:—Chloride of mercury, three grains; compound *colocynth* pill, three grains; croton oil, a quarter of a drop.

28th.—Bowels have acted five or six times copiously; pain almost gone; much exhausted; pulse 120, small, weak. Ordered beef-tea and arrowroot, and a draught containing opium and ammonia at bed-time.

29th.—Slept well for the first time since her illness; no pain; pulse weak and rapid; great restlessness and anxiety; acidity of stomach,

nausea, and occasional retching. It now turns out that she has had an ulcerated leg for some years, which had suddenly healed up about the time she first applied to me. I ordered it to be poulticed, the night draught to be repeated, and hydrocyanic acid, with soda and gentian, to be taken thrice a day.

30th.—Another good night; less sickness and acidity; feels much more comfortable; ulcers on the leg open and discharging; is excessively weak; pulse feeble and rapid; has had a pain between the scapulæ, which passed suddenly, she says, "like a flash of lightning" through both arms. To continue.

July 1st.—A bad, restless night; pain between the shoulders, extending through to the epigastrium; excessive weakness and sense of sinking through the bed; dreads that she shall not recover; pulse fluttering, rapid; nausea, retching, constant distress, anxiety and moaning without any apparent cause; bowels confined. To have beef-tea and arrowroot, with sherry, and a draught of bark and decoction of aloes, with ether and ammonia, thrice daily.

2nd.—About midnight the ulcerated leg became paralyzed and perfectly insensible; ulcers still open; two or three motions passed half involuntary in bed; some numbness of the hands, arms, and trunk; great helplessness; cannot move or turn without assistance; severe pain between the shoulders, passing through to the epigastrium; sense of tightness round the chest; nausea and retching; much debility and sense of sinking; excessive anxiety; pulse weak; skin rather cold; face bedewed with sweat. The abdominal and pelvic symptoms have quite disappeared. I ordered tartar-emetic ointment to be rubbed along the spine twice daily, and camphor, ammonia, and henbane to be taken every four hours, and nourishment.

3rd.—Sleepless and delirious all night. The pain has extended up to the back of the neck. Peculiarity of look and manners; flashes of light and motes before the eyes; vertigo, confusion, and impaired memory; constant nausea and retching; cannot feed herself or do anything without help; tongue dry and brown; pulse 112, small, weak; skin rather cold; bowels not moved. The tartar-emetic ointment has been neglected to be used. Ordered a blister immediately to the back of the neck, and two grains of calomel twice a day; beef-tea and arrowroot; repeat mixture.

4th.—The blister and calomel were only procured and used at six o'clock last evening. The patient was delirious, looked wild, and picked at the bedclothes all the evening and during the first part of the night. Towards morning she became calmer. Now (at ten A. M.) her aspect is more composed and natural. Face flushed, moist; tongue moist, cleaning; less pain in the neck and back; sensation has partly returned in the leg, but no motion; is less helpless with her arms. Yesterday and to day rigid contraction of the muscles of the arms

(chiefly the left) is observed; no convulsive movements; still some sickness. Repeat mixture, with chloride of mercury. In the afternoon was noticed, for the first time, considerable heat of skin and fever, for a short space; pulse rapid and weak; a sunken expression of countenance; delirium, picking, &c.; motions passed half involuntarily; urine passed naturally. To omit the calomel, continue the mixture, and be watched carefully through the night, and fed with wine and arrowroot.

5th.—Less delirium; had some sleep; feels and looks much better; pulse very weak and rapid; respirations 57 in a minute. To continue the wine and arrowroot; apply a blister behind each ear; and take ether and ammonia every four hours.

6th.—Improved; respirations about 35 per minute. Repeat.

7th.—Respirations about 30; right pupil more contracted than the left; no pain, delirium only at night; paralysis continues; biceps of left arm still contracted. Ordered a small quantity of meat and wine, and one grain of calomel night and morning.

8th.—Pupils natural; no delirium; less contraction of biceps. To have a small glass of porter.

9th.—Better, but weak. Ordered quinine, three times a day.

11th. Stronger, but the leg still paralyzed, and trunk still partially so; biceps more contracted; slight pain in the back, and a feeling as of a string tied round the chest. Ordered to continue one grain of calomel twice a day, with bark and beer.

The spinal symptoms abated after a few days; but shortly afterwards painful micturition came on, pain in the loins, costiveness, and superficial tenderness of the abdomen; otherwise she was better and stronger. To stop the beer, take a purge, apply a blister to the loins, and continue the calomel.

19th.—Lumbar symptoms gone; paralysis diminished.

29th.—She was put upon bark and bichloride of mercury, which she continued about seven weeks and sought change of air.

On the 10th of November she called on me. The sensation and motion of the leg were still slightly impaired; and on exposure to the cold she felt pains in the head and spinal cord. But she could stand and walk pretty well; could walk two miles a day, and appeared in tolerable health.

*Remarks.*—In this case, there was never any fever or heat of skin from first to last, with the exception of the trifling hectic attack on the 4th. Some writers state that fever always accompanies this disease. Convulsions, also, and opisthotonos, were alike entirely absent. The paralysis that occurred corresponded to the part of the cord affected, and did not take place until several days after the disease had fully declared itself in each part, by which time we may

presume that the products of inflammation have been exuded in some quantity within the sheath. No improvement was observed in the paralysis until the system began to be under the influence of mercury. The diagnosis was not difficult. The obstinate costiveness, nausea and retching, and deep-seated pain and tenderness of the abdomen, present on the 26th, might appear to suggest enteritis. But this was contradicted by the excessive pain in the back, the absence of fever, the superficial tenderness, the pain in passing urine, and the pain going down the front of each thigh. Nephralgia was suggested by the two latter symptoms, coupled with the sickness and pain in the back; but the absence of pain and tenderness over either kidney, the absolutely central position of the lumbar pain, the superficial pain and tenderness, and the faint indications of tingling in the feet and of helplessness, all concurred in pointing to the spinal cord. That the affection implicated rather the membranes of that organ than the cord itself, was inferred from the severity of the pain, the preternatural increase of sensibility, the absence of convulsions or other important functional symptom at first, and, in the course of the case, from the extension and erratic tendency of the disease. The loss of sensation in the paralyzed limb and elsewhere might be held to indicate some degree of myelitis associated with meningitis—a common coincidence; but it might equally arise from the gradually increasing pressure of effused matters. That peculiar form of chronic spinal meningitis which accompanies one variety of leprosy is always followed by diminished sensation, the cord remaining unaffected.

Old Steine 1859.

## IMPERFORATE ANUS.

### PASSAGE OF FECES THROUGH THE PENIS; OPERATION AND RESULT.

By J. E. DICKINSON, Esq., M.R.C.S. Eng., Rangoon.

About the close of the year 1858, a Burmese male child was brought to me for advice by Dr. Dawson (a missionary physician), the child having an imperforate anus. The infant was four months old, and the stools had always passed through the penis. The normal urethral opening was also impervious; but there was a transverse opening at the base and under surface of the glans penis, through which urine and feces passed in common. Where the anus should have been, was a button-like depression, about the size of a silver twopenny-piece, the skin at this part being finer and thinner than the surrounding tissue. The parents of the child were anxious that something should be done to remedy so serious an irregularity, and at once sanctioned any operation I might think advisable. |

The child having been secured upon his back, I made a crucial incision, about half an inch deep

with a scalpel, through the button-like depression above mentioned, and then introduced a medium-sized trocar and canula, passed it backwards and upwards, and was fortunate enough to hit upon the gut, as evidenced by the escape of fæces on withdrawing the trocar. The canula was kept in the opening, and the fæces passed through it for three or four days, when, by some mismanagement on the part of the mother, the canula was allowed to slip out, and the fæces again made their exit per penem.

I operated for the second time; but now I passed the largest trocar and canula I had, and having again struck upon the intestine, I withdrew the trocar, and through the canula I passed a No. 12 catheter, having cut it in half for the purpose, so that about six inches of the catheter remained in the intestine. Through this the fæces escaped regularly, and ceased to pass through the penis. An enema of warm water was thrown into the intestine every morning, apparently with the happiest result.

This state of things continued up to the first week in February, when the canula and catheter were again ejected during the night; after which, however, the fæces were discharged per anum, and not per penem, and still continue to be so evacuated.

My patient, of course, remained up to this date in the Civil Hospital, under my charge; but the parents of the child, who live about three or four days' journey from Rangoon, were anxious to return home for agricultural purposes, and I was, therefore, obliged to part with my little patient sooner than I could have wished. But I still hope to gather information as to the child's condition now and then, and if so, will chronicle the *finale*.

*Remarks.*—This case appears to me to be more than usually interesting, from the double arrest of development, the anus and urethra being both impervious; for doubtless the transverse opening at the base of the glans penis was an effort of nature made subsequently to the birth of the child; and, though it is somewhat difficult to obtain accurate and reliable information from the Burmese, the history of the case would warrant this opinion. The case is also interesting from the length of time the anus had been imperforate, the child being four months old: he was robust and healthy in appearance, and of course was still deriving all his nourishment from his mother. The passage of the fæces through the penis was, however, but a temporary arrangement, and could only fulfil the office of the anal orifice so long as the stools remained liquid: and, therefore, it became a matter of considerable moment to establish, if possible, the natural outlet, to meet coming requirements. Though naturally satisfied, up to the present time, with the result of the operations, and sanguine as to the ultimate benefit that will accrue therefrom, I feel that, in the event of a fatal result, an insight into the relative position of the parts, and the exact point of communication be-

tween rectum and urethra, would have been highly interesting and instructive.

### REPORT OF A CASE OF HYDROPHOBIA.

By J. C. HORNSBY WRIGHT, M. D.,  
ASSISTANT-SURGEON TO THE ROYAL HORSE ARTILLERY.

John L—, of the royal Horse Artillery, Aldershot Camp, aged twenty-two years, by trade a collar-maker; has been in the service three years and a quarter. At half-past nine on the morning of the 22nd of February, I was called to see this man, who had, with some difficulty, walked to the hospital, a distance of about 150 yards. At this time he presented the following appearance:—When I entered the ward I found the patient walking about in an apparently anxious state, with his hands upon his throat. He complained of shortness of breath (as he called it) and of spasmodic attacks of pain in the region of the larynx. He stated that there was a total loss of sensation in the integument covering the front of the neck. I proceeded to examine the throat, but this examination, which produced violent spasms of the rima glottidis, discovered nothing more than traces of old ulceration of the tonsils. The case appeared to me at first sight to possess something of the character of laryngismus stridulus, except that there was absence of the whistling noise on inspiration peculiar to that complaint. The patient was treated, however, for an affection of that nature. Blistering fluid was applied over the upper part of the sternum, and maximum doses of hydrocyanic acid were dropped upon the tongue. The administration of the latter always produced spasm. He remained in pretty much the same condition until six p. m., when upon visiting him, I found the spasms of the glottis much more frequent. I therefore proposed to try the effect of a strong anodyne draught. This was, however, refused by the patient, who got into a violent state of excitement at the first glimpse of the cup and its contents. I had recourse again to the hydrocyanic acid, and for some time he appeared to experience relief. I then took the opportunity of obtaining some little information as to the commencement of the complaint, the sum total of which was, that for three days and nights he had been unable to swallow anything, either fluid or solid; that he had not slept, and that he had been unable to remain for any length of time in other than an upright position. Suffering from what he called "shortness of breath," also from want of sleep, and inability to swallow, he at last reluctantly consented to be taken into the hospital, on the 23rd, at nine a. m.

The patient has not slept at all through the night; has been sitting up in bed most of the time. Spasms of the glottis not more frequent than last night. Complaints of thirst, but any fluid presented to him produces suffering;

wears an anxious expression of countenance; pulse 56, somewhat intermittent, at times full and strong; pupils much dilated. He remained pretty easy, sitting up in bed, until one P. M., at which time, so violent and lengthened were the spasms of the glottis, that the necessity of making an opening into the trachea appeared by no means unlikely. Preparations for this alternative were made, and with a view of relaxing spasm, chloroform was applied to the nape of the neck, and to the blistered surface at the top of the sternum. This was, however, accomplished with the greatest difficulty, the sight or sound of fluid producing violent spasm. He now complained that anything held in front of his face brought on the so-called "shortness of breath," and the slightest motion near him causing a draught almost choked him. He asked to have the tin vessels in the ward removed, as they reminded him of water, and always produced suffering. He complained of violent thirst, yet dreaded to ask for drink. At this time he presented an anxious appearance; pupils dilated, and there were evident symptoms of imperfect aëration of the blood; pulse full, and only 56; skin moist with perspiration. His inability to swallow fluids, with craving for drink; his horror of the sight, sound, or name of water, combined with the violent spasm of the glottis, and the muscles of the neck generally, first suggested the idea of the case being one of hydrophobia. Suspicion awakened, inquiry was immediately set on foot, and the following information elicited, leaving but little doubt as to the nature of the malady:—

Six weeks since, this patient was the owner of a dog, which, it was stated, had bitten two men of the troop; but the matter was not considered of any importance. A few days afterwards the dog was remarked to appear very sickly, and to foam at the mouth. Without provocation, it attacked and threw down one of the gunner's children, upon which the patient ran to the rescue, and in removing the dog, was himself bitten in the right hand. Believing the dog to be mad, he immediately destroyed it.

Six P. M.; Is extremely violent, and complains of the parched condition of his throat; cannot swallow at all, either solid or liquid; suffers dreadfully from thirst. Experienced some little relief from the administration of a powder, consisting of citric acid, lump sugar, and muriate of morphia, rubbed up together. The relief, however, was not of any duration.

Ten P. M.; Continues still very violent, but is quite sensible, and has asked to see the chaplain. He implored those around him to give him food, which he was totally unable to swallow. Complains of his "throat being closed," and his "nostrils stuffed," and appeared to endure great agony. The paroxysm was immediately induced by the slightest breath of air moving in the ward, by the sight or sound of water, or even by as slight a movement as one of the orderlies raising his hand to his head. On such occasions

his words invariably were, "Don't breathe on me." All through the evening he complained much of dryness of the throat, craved for liquid, and always rejected the same when offered. During the day, and more particularly towards night, he continued to expectorate viscid, white, and ropy mucus, generally through his closed teeth.

Feb. 24th.—Four A. M.; Ever since twelve o'clock last night, the patient could not be induced to sit or lie down; has been exceedingly violent, requiring the adoption of a strait waistcoat; talks loudly, incessantly, and authoritatively; tongue never quiet; most wakeful, watchful, and suspicious; threatens personal violence, and appears to be in constant dread that he is eventually to be smothered by the orderlies. This belief has taken firm possession of his mind, although he has not the slightest idea as to the nature of his disease.

Ten A. M.; Requires two men to hold him down; has not slept at all; spasms not so violent, but of longer duration: hunger and thirst both much complained of; countenance very anxious; pupils much dilated; eyes sunken; pulse small and rapid. Is still unable to swallow, except fluids in very small quantity, and that with most painful exertion. Describes his craving for food as unbearable. Is somewhat confused in intellect, but is still cunning, watchful, and suspicious; dreads being "made away with" by the attendants; continues to spit out quantities of tough, white mucus, through his closed teeth; talks incessantly.

About eleven A. M., he laughed much in a hysterical manner and begged for bread, but was unable to swallow it.

He continued in this painful state up to a quarter to two P. M., when a convulsion came on, after which he appeared to be dying; but to the astonishment of those around him, he rallied, and again prayed for drink.

Three such convulsions occurred between a quarter to two and half-past five, at which hour he died, not from asphyxia, but completely worn out.

*Autopsy, eighteen hours after death.*—Great rigidity of muscles; hands tightly clenched; mouth firmly closed; a slight wound visible on the second finger of right hand, evidently of old standing. Larynx: Cavity full of thick, ropy mucus; great congestion of mucous membrane generally; interior of thyroid cartilage very much inflamed; blood generally fluid.

Aldershott Camp. 1869.

#### ON A CASE OF ENCEPHALOCELE.

By J. B. THOMSON, Esq., M.R.C.S.

On the 23rd of May, 1858, I was summoned to attend Mrs. S—. I found the os uteri fully developed, the head presenting. Shortly afterwards the membranes ruptured, and I anticipated a speedy termination of the case. In

this I was disappointed; although the pains were strong, the progress of the head was unaccountably slow. At length I discovered that a tumor of some description protracted the labor. After three or four hours' suffering, my patient gave birth to a male infant, having a tumor protruding from the occiput as large as the infantile head, filled with a transparent fluid; the integument in which it was contained being a prolongation of that covering the cranium, and more thickly covered with hair. The child's countenance was haggard, the body and limbs, although perfect in form, much emaciated. After a consultation with some of my medical friends, on the 23rd of June, I punctured the tumor at the most dependent part with a small trocar, and evacuated twenty-four ounces of transparent fluid, of the specific gravity of 1010, which, on being exposed to the tests of heat and nitric acid, deposited a large quantity of albumen. After the operation a solid protuberance could be felt, about the size of a walnut, at the lower portion of the occipital bone. The operation produced no effect upon the child. The sac rapidly filled again, and on the 2nd of July I again evacuated the contents; the fluid was not so transparent; the quantity about the same. On the sixth of July the child died, having gradually wasted, although taking the breast heartily; for some days it took a teaspoonful of cod-liver oil twice a day.

I obtained permission to open the head, and found the occipital bone deficient as high as the ridge, giving exit to a portion of the cerebellum, which appeared of a dark color, as if strangulated, and which constituted the tumor. It fell when the contents of the sac were evacuated.

And now as to the cause of encephalocele. She attributed it to a fall when about three months pregnant; but I am inclined to attribute it to the debilitated state of her health, having about a year since aborted, after which she had scarlatina, and very shortly became pregnant of the subject of this case. The father is a healthy man, and Mrs. S.—, previous to nursing her first child (who is very healthy), enjoyed a fair amount of health.

I find an account of a similar case narrated by Mr. J. Z. Laurence in *THE LANCET* of September 5th, 1857, who states that not more than eighty similar cases are recorded in medical history. My medical friends and myself have all been upwards of twenty four years in practice, but have never met with a case similar to this.

Ramsgate, 1860.

## ON AMPUTATION AT THE WRIST-JOINT.

WITH ILLUSTRATIVE CASES.

By NATHANIEL WARD, Esq., F.R.C.S.,  
ASSISTANT SURGEON TO THE LONDON HOSPITAL.

THE rarity of this operation renders valuable any evidence as to the best method of perform-

ing it, and its consequent results. The following communication can, therefore, hardly be without interest to the surgical inquirer:—

Case 1.—A sugar laborer, aged twenty-five, was admitted into the London Hospital with a severe injury to the hand. He had a short time previously been heedlessly passing a loaf of sugar forward to the cutting machine, an instrument revolving like a wheel, and connected with the steam-engine of the establishment in which he was working, and set with knives or rather broad cutting-pieces of iron passing from the centre to the circumference of the instrument, and with their edges turned outwards. The right hand was drawn in with the matting that protected it, and was chopped up. In consequence of the cleanness of the cuts, the patient lost a considerable quantity of blood prior to admission. When he came in, the only part of the hand that was left was the first row of carpal bones, and a bare fragment of the os magnum at the back part. The pisiform bone, by-the-by, was separated from its connection with the cuneiform, and lay in contact with the soft parts that remained about the wrist-joint. The disarticulation between the two rows of bones was so clean that one might almost have thought that the scalpel had been at work, and could be explained only by the dragging and cutting manner in which the injury had been effected.

I disarticulated the scaphoid, lunar, and cuneiform bones from their connections with the radius and lower surface of the inter-articular fibro-cartilage, and managed to obtain a not very bad flap from the remnant of the palm, and which was brought up over the radius and fibro-cartilage, and connected by suture to a short dorsal flap. Strips of wet linen were applied.

The man remained under treatment nine or ten weeks, and was then made an out-patient. The constitutional treatment immediately after the operation consisted in the use of generous diet, with from twenty to thirty ounces of wine daily, and quinine and iron. Hospital gangrene was rife at the time of the operation, and three weeks at least elapsed before the wound put on a healthy granulating aspect, occasional bleedings during this period having taken place. The threatened gangrene, however, was checked by the daily application of nitrate of silver and water-dressing, and the limb being kept perfectly quiet on an angular splint. Five or six abscesses formed between the flexor tendons of the former, and when he left the hospital a small sinus, resulting from one of them, remained. A good stump resulted.

This patient called on me six months after the operation. The stump was perfectly firm and painless, and the rotatory movement of the radius on the ulna ranged from fifteen to twenty degrees.

Case 2.—A lad, aged twelve, robust, and in excellent health, was admitted with the hand so lacerated and fractured as to put aside all hope of saving it. He had been assisting a man to turn

the handle of a large wheel which communicated with a smaller wheel by a flat strap passing over the circumference of either. The boy was resting for a short time, when he thoughtlessly placed his hand between the strap and the small wheel, and thus the injury. Although the injury was very extensive, there remained sufficient of the soft parts intact to admit of amputation at the wrist-joint. I made two flaps, a dorsal and a palmar, by detaching the soft parts from *before backwards*, the latter flap being larger than the former. Ligatures were applied to the radial and ulnar arteries, and the borders of the flaps approximated in the usual manner. The stump was redressed on the fifth day, and the boy went out on the twentieth day after the operation. *The power of pronation and supination was perfect.*

**Case 3.**—A man, aged thirty-six, was admitted, under the care of Mr. Luke, for orchitis. His hand had been amputated by Mr. Luke at the wrist-joint by the double-flap operation six years previously. An excellent stump had resulted, and the patient had the power of rotating the radius on the ulna to the extent of about twenty-five degrees.

**Case 4.**—A laborer, aged thirty-five, was admitted in consequence of having received an injury to the hip. Amputation of the hand had been performed eleven years previously. The forearm was fixed in a state of pronation. The ends of the radius and ulna were ankylosed, so that no rotatory movement of the former on the latter could occur. A cicatrix existed three or four inches above the lower surface of the stump, just internal to the tendon of the supinator longus. This indicated the position of an abscess, which the man said had been opened three or four days after the operation. The styloid processes of the radius and ulna could not be felt, so that it is probable that removal of the lower ends of the radius and ulna had formed part of the operation.

**Remarks.**—In irremediable injuries of the hand, amputation at the wrist-joint is unquestionably preferable to the removal of the mutilated part by an operation performed at the lowest part of the forearm,—a practice still recommended by some surgeons of the present day. In the former proceeding, if the steps necessary during its performance are carefully attended to, the inter-articular fibro-cartilage and saciform synovial membrane between it, the radius, and the ulna, are left uninjured; and when the stump has healed, the rotatory movement of the one bone on the other is more or less preserved, and consequently a more extended range of movement allowed to any mechanical appliance made use of as a substitute for the deficient portion of the limb, than if amputation had been had recourse to through the lower part of the radius and the ulna, in which instance ankylosis between them would result, as shown in Case 4.

Amputation at the wrist joint is best per-

formed by making a dorsal and palmar semi-elliptical flap. The apices of the styloid processes being taken as the guide for the limits of the incisions, the first incision is made over the back of the hand when in a state of flexion, its most prominent part being about three-quarters of an inch from the carpal surface of the radius. The skin and soft tissues beneath it are then dissected from before backwards, and the joint is opened by a division of the dorsal ligaments. The hand is then placed in a state of supination, and extended, in order to render tense the flexor tendons, and a similar flap, but more extensive (the prominent part of its border being on a line with the lower third of the carpus), is made from the palm, by dissecting the soft tissues in a similar manner from before backwards. The first part of this flap is to be made of skin and connective tissue only, the flexor tendons being divided about a quarter of an inch below the joint. The palmar and lateral ligaments are then cut through, and the operation is finished.

By this method of operating two neat flaps are made, and the border of one can be brought into accurate apposition with that of the other. This cannot be effected by the ordinary method of proceeding, which consists in first making a dorsal flap, then entering the joint, passing the knife between the carpus and bones of the forearm, and finishing the operation by carrying the instrument from behind forwards through the palm, and so making the anterior flap. The objections to this method apply only to the second part of the operation. The hand being then in a state of flexion on the forearm, in order to admit of the easy insinuation of the blade of the scalpel above the upper row of carpal bones, the inter-articular fibro-cartilage is apt to be injured by the edge of the cutting instrument. The tendons of the flexor muscles being in a state of relaxation, are also apt to be drawn before the scalpel, and after having been cut through to require subsequent shortening; and, in consequence of the prominence of the pisiform, unciform, and trapezium bones, the resulting cutaneous flap would be more or less angular and jagged, and probably here and there button-holed, thus interfering with and retarding the reparative process.

Broad street Buildings, 85.

## ON INSOLATIO, SUN-STROKE, OR COUP-DE-SOLEIL.

By WILLIAM PIRRIE, M. D.,

LATE ASSISTANT-SURGEON IN H. M. 71<sup>ST</sup> HIGHLAND LIGHT INFANTRY.

As so many of our fellow-countrymen have of late died from the effects of sun-stroke, the following remarks, based on the observations of one who had opportunities of seeing many such cases during Sir Hugh Rose's summer campaign of 1858 in Central India, may not be unacceptable to those in this country who have



never witnessed the direful results of direct exposure to a tropical sun.

Every one knows the influence of high atmospheric temperature in stimulating the organic, and, if continued for some time, in depressing the animal, function; yet many who have not had opportunities of personal observation may not be aware of the distressing effects of heat when it acts as an exciting cause of sudden attacks of illness. Exposure to the influence of a tropical sun may give rise to various minor forms of illness of a febrile and more or less lingering character, but on these affections it is not my purpose to write.

The terms *Insolatio*, *Sun-stroke*, or *Coup-de-soleil*, are applicable to those cases only in which an individual is seized with sudden alarming illness, and in which life is placed in immediate jeopardy, the patient exhibiting some one or other of the combinations of symptoms to be afterwards described. The object I have in view may, perhaps, be best accomplished by classifying the following remarks under the successive heads of,

1st. The various forms which the attack may assume; or, in other words, the different degrees of intensity of the affection; and the symptoms characteristic of each form.

2nd. The predisposing causes of this affection.

3d. The post-mortem appearances, and the conclusions deducible from them as to the nature of the disease.

4th. The treatment most successfully adopted in these cases.

Amongst the many cases of sun-stroke which came under my observation, three different forms of attack were observable:—

In the first and speedily fatal form, the individual has no premonitory warning of the impending evil, or, if he has any, it is of momentary duration, for he immediately falls down insensible, quite unconscious of all outward impressions, makes a few hurried, gasping respirations, and instantly expires. The examples I had opportunity of seeing of this most rapidly fatal form of the disease, occurred during direct exposure to the rays of the sun. The redness and heat of the surface of the body, the perfect unconsciousness, and the gasping respiration, are striking features in this sudden and fatal form of seizure.

In the second form of attack the sufferer has an unusual and extremely painful feeling in his head; a distressing sense of bursting and burning in his eyes, accompanied with giddiness and confusion of vision; a most overpowering sensation of constriction in the chest, with greatly oppressed respiration; great heat of the surface of the body; a dark red, almost livid, color of the skin, and an alarming sense of general oppression and exhaustion. On looking at the patient, the impression formed was, that the chief suffering was in the chest, and patients laboring under this form complained most of the

symptoms referable to the chest and the breathing, and in many instances described them as almost insupportable.

If proper means be instantly adopted and zealously pursued, consciousness may not be lost, and the symptoms may be removed, and leave the patient to all appearance comparatively well; or they may increase in severity, and merge into those of the third form, the phenomena of which are the following:—

The sufferer complains of violent pain in the head and eyes, of giddiness and confusion of sight, of a most painful feeling of suffocation and constriction in the chest, of extreme debility, especially in the back and limbs, of intense thirst, and of heat in the epigastrium, all which symptoms rapidly increase in severity until the supervention of insensibility, which too often most rapidly ensues. If called in early, the medical attendant usually finds his patient in a state of extreme prostration, and affected with convulsions, vomiting, a burning hot skin, a very contracted pupil, an excessively suffused conjunctiva, and a rapid and feeble pulse. In many cases, shortly after the seizure, priapism and emission of semen take place. The respiration in all cases is hurried, imperfect and gasping, and, before insensibility comes on, the sufferer is often in a restless, alarmed, and agitated state, not unlike that observed in persons laboring under delirium tremens. The patient remains in this condition for a longer or shorter time according to circumstances; but before the scene closes, the pupil becomes so contracted as to be almost obliterated, the conjunctiva more and more suffused; the respiration, at first hurried, imperfect, and gasping, becomes slower and rather stertorous; the convulsions and vomiting cease, and the sufferer lies perfectly motionless, it may be, in a state of low muttering delirium, but completely insensible to all outward impressions. The skin retains its burning heat, but becomes rather clammy; the sphincters relax, the rapid, feeble pulse becomes more and more weak, and at last the patient expires.

Such are the symptoms when the affection ends fatally; but the case may result in fever, or the individual may have a severe attack, and he may ultimately recover; but after the characteristic symptoms have been removed, he usually continues to suffer, for a longer or shorter time, from pain in the head and eyes, from giddiness and confusion of vision, from singing in the ears, and from pain in different parts, especially in the back and limbs; all which symptoms are generally of a more or less decidedly periodic character.

The subject of *coup-de-soleil* may therefore suddenly expire, or he may succumb after a longer or shorter time, or his case may merge into fever, or he may ultimately get well, after experiencing for some time such symptoms as I have attempted to describe.

The first time I had an opportunity of seeing

a case of sun-stroke, an impression was immediately made on my mind that I had never seen a person affected with the same disease, or with one similar to it. The greater majority of the cases of sun-stroke which I saw occurred during direct exposure to the rays of the sun, but some cases commenced in the shade. Examples of all the forms of the complaint commencing during direct solar exposure were numerous, but I did not see any case of what I have described as the most rapidly fatal form, in which the seizure occurred while the person was in the shade.

Having now come to the consideration of the predisposing causes, it may be stated that whatever tends to diminish the vigor of the constitution may act as a predisposing cause. Insufficient rest, undue labor, intemperance, excessive fatigue, depression of spirits, debilitating influences of every kind, are unquestionably predisposing causes of this affection. A scanty supply of water seems also to act as a powerful predisposing cause. But observation seems also to justify the conclusion, that one who has newly come to a tropical climate, though he be temperate in all things, and placed in equally favorable circumstances with an old resident, will, if exposed to the exciting causes, after prolonged exhaustion, be more liable to an attack of sun-stroke than one who has passed several years of his life in the same high temperature. Amongst the many cases of sun-stroke that occurred in the Central Indian Force, the troops comprising which were in similar circumstances with respect to rest, fatigue, and food, by far the greater number of seizures occurred amongst those who had recently arrived in that country. I have, moreover, seen European children, born and brought up in India, run and play about, exposed to the sun, with perfect impunity, whilst men being newly arrived in the country were being taken by sun-stroke. By protracted residence in a warm climate, the system becomes acclimatized, so to speak, or is made tolerant of, or capable of bearing such a degree of heat as would, *ceteris paribus*, undoubtedly be a cause of alarming illness in one not seasoned to such a climate.

Again: Insufficient covering for the head seems to have an undoubted influence in rendering one more liable to an attack of coup-de-soleil. The natives of India most certainly have this conviction, for however inattentive they may be to protecting the rest of their person, they are, as a class, most careful in always having a due amount of covering on the head during solar exposure.

The imperative and harassing duties constantly devolving on the medical officers, the extremely short time that could be allowed to intervene between death and interment, and other causes which need not be mentioned, rendered it utterly impossible to have so many post-mortem examinations as was desirable; but when such took place, it struck me as a remarkable

circumstance that the usual appearances were in degree far from being proportioned to the urgency and rapidity of the symptoms. The appearances I observed were—an engorged state of the scalp and conjunctiva; a rather turgid condition of the vessels of the pia-mater, choroid plexus, and of the veins on the surface of the brain, especially in the neighborhood of the sinuses; and a slight increase of the ordinary red punctuation of the cerebral substance. Engorgement of the lungs, to an extent to cause a dark purple or even black color, was the most striking morbid appearance observable in the chest, as indeed in the body. I did not detect any extravasation of blood, and therefore did not see what is properly denominated apoplexy of the lung, which, I believe, has been sometimes seen by other observers; but the engorgement was so great as to bear a striking resemblance to that state. The right side of the heart and its vessels were slightly distended, and the left side of the heart contained a smaller quantity of blood of dark color. The liver, in general, seemed congested. The other viscera were healthy. I never saw the blood coagulated, and I had no opportunity of examining the spinal cord.

Having endeavored, in the previous portion of this paper, to describe the symptoms and post-mortem appearances, the question naturally arises,—What is the mode of death in the various forms of sun-stroke? It seems very evident that, in all but the first and fearfully rapid form, death is by apnoea, or at all events the symptoms of apnoea plainly predominate; and hence the name “heat-asphyxia,” given by some to this most alarming disease. The symptoms are distinctly those of that mode of dying in which death commences in the lungs; but by what means the circulation begins to be arrested in the lungs,—or, in other words, the manner in which high temperature operates in causing stagnation of blood in the lungs—whether it be by giving rise to immense engorgement, or by causing imperfect arterialization of the blood,—I do not consider myself qualified to give an opinion.

Every one knows that non-arterialized blood finds its way with difficulty through the lungs; but it would be interesting to know how the depurating process is suspended to a degree sufficient to induce the commencement of stagnation in the capillaries of the lungs, if that condition of the blood be the cause of failure of circulation through the lungs. On this interesting subject Mr. Martin remarks:—“In all the recorded instances of heat-apoplexy, we have perceptibly presented a great, and, to the European, a most unnatural, elevation of temperature, a proportionate rarefaction of the air, and a consequently diminished supply of oxygen at each inspiration; a resulting deterioration or venalized condition of the blood; a depression of the nervous functions, with augmented animal heat, and an impacted skin. Malaria and other

atmospheric impurities, with their consequences, are occasional accessories, with the super-addition also of fatigue and its results. These circumstances, after acting on a system previously injured by improper diet and other intemperance, by disordered or diseased viscera and defective excretion, will go far to account for all the phenomena of this suddenly fatal disease. The condition of the lungs, heart, and brain, immediately resulting from the extremely rarefied air and intense solar heat, appears to be one of extreme venalization of the blood, with acute congestion at first, proceeding rapidly to a passive congestion and greater depression of the nervous and vascular energies, and to consequent narcotism of the lungs, heart, and brain."

It is quite possible that even in the forms of sun-stroke in which the respiratory apparatus is primarily affected, there may be some degree of cerebral syncope, even from the commencement; but, although it may be an erroneous impression, the study of such cases produced in my mind the belief, held by many, that death is caused by apnoea, or that the symptoms of that form of death predominate.

In the forms of sun-stroke in which the patient, without any premonitory symptom, falls down insensible, makes a few gasping efforts to breathe, and in a few moments expires, the symptoms appear very plainly to indicate death beginning in the brain. The sensibility is first destroyed, and, as a necessary consequence, the functions of the lungs are suspended, and circulation of venous blood takes place; circulation of venous blood in this form of dying being the *consequence* of the loss of sensibility; whereas in death by apnoea it is the *cause*. The essential anatomical characters of both modes of death being the same, presenting only differences of degree in the chest and in the head, it is chiefly by the symptoms during life that an opinion can be formed as to whether death was caused by coma or by asphyxia. I am quite aware how speedily sensibility is destroyed in death by apnoea; but many cases of sun-stroke produce a strong conviction in the mind of the medical observer, that sensibility ceases first, and that death begins in the brain.

It would be interesting to know in what way solar heat destroys the action of the brain—whether it be by pressure caused by expansion of its vessels, or by some influence independent of the condition of vessels within the head. In many of the cases which came under my observation, in which death did not take place very speedily, the symptoms merged into those of compression, and the appearances within the head, which I have described, were in character, though not in degree, such as might be expected in death caused by pressure on the brain. I did not see that extreme distension of vessels within the head which some observers have described, and looking at the brain gave me the impression that some influence apart altogether from distension of vessels must have assisted at

least in destroying the functions of that organ. In those cases in which loss of sensibility was the first symptom, and where loss of sensibility was almost immediately followed by death, the state appeared to me to bear a much greater resemblance to concussion than to compression of the brain.

Some of these almost instantly fatal cases brought forcibly to my recollection the experiments of Legallois and Dr. Wilson Philip—experiments made on animals to ascertain the effect produced on the heart and organs of circulation by injuries of the brain. It was found that when violent concussion was produced in the brain, an immediate and great depression, or complete suspension of the action of the heart, was the result, from which it is concluded, that a sudden injury to the brain, such as a violent concussion or shock, suspends the action of the heart, and thus proves fatal; that, in short, death occurs from syncope. The vital powers of the heart seem to be instantly destroyed for when the chest of the animal is opened immediately after death, it is impossible to excite any contraction; and instead of the veins leading to the right side of the heart, the right side of the heart itself, and the trunk and branches of the pulmonary artery, being found distended, and the left side empty, as in death by coma and asphyxia, the distinguishing peculiarity is, that there is no difference in the quantity of blood in the right and left sides of the heart. It is well known that surgeons believe that cases of concussion of the brain occasionally prove fatal in the same way; and it may be found that some of the almost fatal forms of sun-stroke conduct to death by fatal destruction of the heart's action, caused through the intervention of a sudden impression on the brain. I had not an opportunity of making a post-mortem examination in a case of immediate death from sun-stroke, and cannot therefore say anything from personal observation; but I have understood that scarcely any morbid appearances have been observed in some cases—a condition of parts reconcilable with death by concussion, but not with death by coma or asphyxia. After the impression was produced in my mind that this may be one of the ways in which sun-stroke produces an extinction of life, I had a great desire to make a careful dissection in a case of almost instant death, but the state of my health soon deprived me of the power of attending to that or to any object of professional interest or duty.

*Treatment.*—As every one knows, the tendency observed to this or that mode of dying, is a useful guide in determining the general principle of treatment—the object aimed at being the employment of means best calculated to obviate the mode of death to which there is a manifest approach. The observance of this rule in cases of sun-stroke, would suggest depletion and means for producing derivative effects, when death is threatened by coma or apnoea, and the

use of stimuli when by syncope : but the best directed treatment is too seldom followed by favorable results.

My testimony regarding treatment may be given in a few words. In many cases of almost instant death by sun-stroke, life was lost before it was possible to institute any mode of treatment; and, in many others, the powers of life were so thoroughly sunk from the moment of seizure that remedies produced no impression on the symptoms. In no case was general blood-letting at all beneficial, but decidedly the reverse. In many instances, I have seen it employed by men of great experience who were well qualified to judge when it was likely to be useful, and the results were always unfavorable; and I have been told by many who had ample means of observation during the summer campaign of 1858, that venesection always seemed to hasten a fatal termination. The result of bloodletting seemed of itself sufficient to show that the vital organs are overpowered by some influence in addition to that of local congestion.

The treatment most generally useful consisted in removing the patient to the shade as speedily as possible—in preserving the body in a proper position—in the energetic employment of cold affusion to the head—in producing as cool an atmosphere as possible around the patient—in the diligent use of friction and heat to the extremities and other parts, so as to cause derivation from the head and chest—in acting sharply on the liver and bowels by mercurial and other purgatives—in frequently administering diffusible stimuli, and in causing determination to the surface of the chest by applications of mustard or of turpentine. Along with these remedies, local depletion from the head seemed sometimes to be beneficial. When the patient became comatose, blisters to the back of the neck, and stimulating cataplasms to the feet or legs, were tried; but, in too many instances, they were of no avail.

Another measure, to which Dr. Simpson, of her Majesty's 71st Regiment, attached importance, was to engage the patient's attention by keeping him answering questions put to him in a loud tone of voice; to rouse him up by continually talking to him, and by rubbing his limbs; and not to leave him to himself till the remedies should have fair time for their operation. This expedient seemed, in some cases, to assist in warding off the insensibility, if not in some cases to prevent its accession.

Under the use of the above mentioned treatment, modified according to circumstances, many patients recovered; but, in too many instances, the result was fatal to those who were attacked with this singular disease.

Not having had an opportunity of consulting the works of the authorities on this affection, the above observations can be of no value except as being a faithful account of what came under my own observation in numerous cases of sun-stroke

which occurred during Sir Hugh Rose's summer campaign of 1858, in Central India.

Aberdeen, 1860.

## REPORT OF A CASE OF SUCCESSFUL OPERATION FOR VESICO-VAGINAL FISTULA.

WITH REMARKS.

By JOHN G. S. COGHILL, M.D.,

DEMONSTRATOR OF ANATOMY IN THE UNIVERSITY OF GLASGOW.

I beg to submit to the attention of the profession the following case of successful operation for vesico-vaginal fistula. It was intended somewhat as an experiment to illustrate certain views which I was led to entertain regarding the essential principle of the operation so recently revived in America and accepted with so much interest in this country, and upon the nature of which it serves to throw considerable light:—

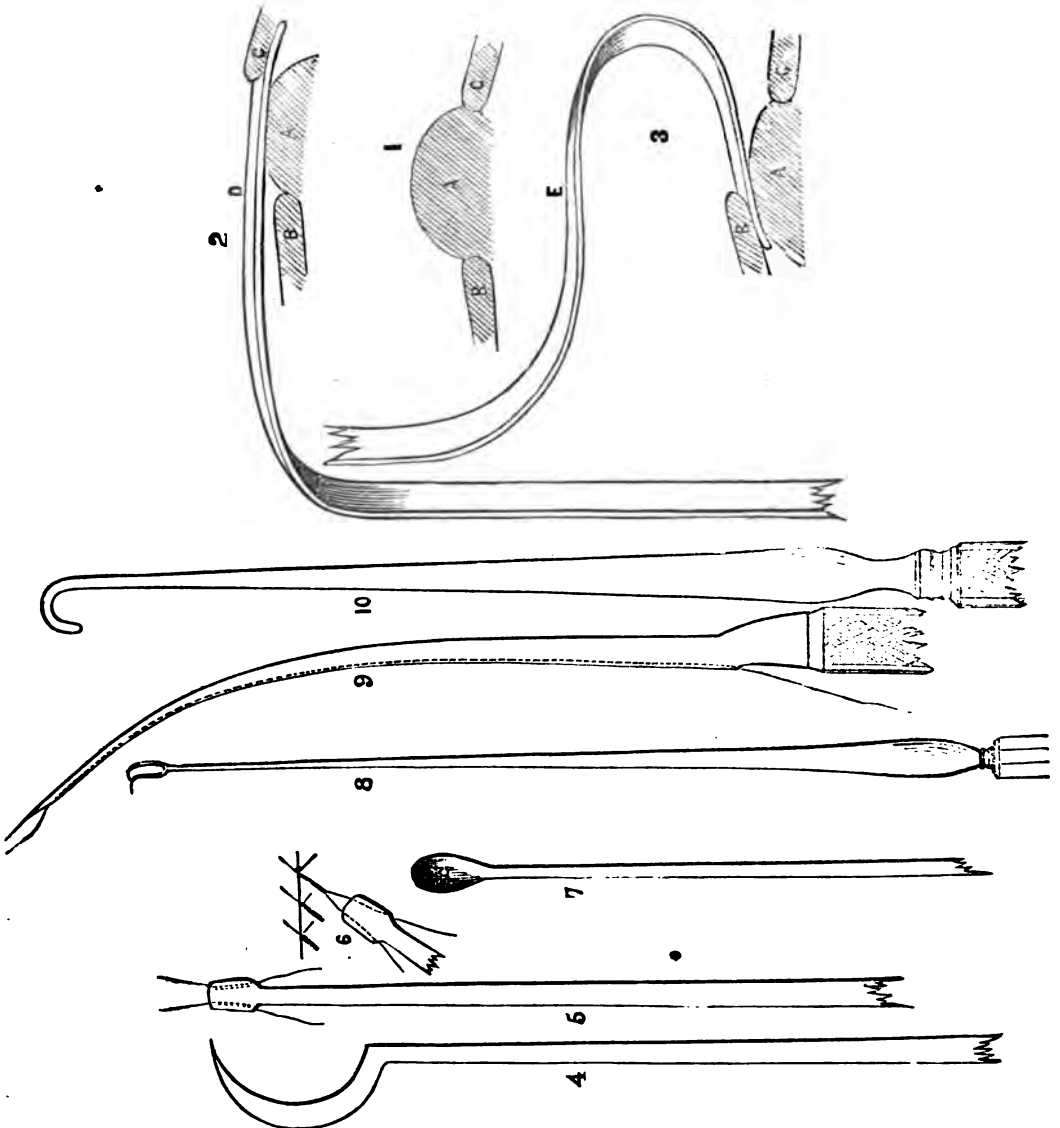
Mary McS—, a short, stout, healthy-looking female, aged nineteen, gave birth to an illegitimate male child in April, 1857, after a very protracted and tedious confinement. \*She was in labor, under the care of a midwife, for nearly three days, when delivery was effected by a student of the University Lying-in Hospital, but whether with the aid of instruments or not cannot be ascertained, as the patient was insensible at the time, and her friends and attendants were not present. The head of the child it is said, was exceedingly large, and this must have induced the difficulty of the parturition, as the pelvis so far as I can ascertain, is of normal size. Four days after delivery, on attempting to rise in bed, something gave way internally; a gush of urine followed, and ever since she has been unable to retain a drop of urine at any time or in any position. She was subsequently received into the Town's Hospital here, and a variety of mechanical appliances was had recourse to for her relief, but without the slightest benefit. After a residence of two months, she left the hospital, and latterly has been under the care of Dr. Alexander of this city, to whose kindness I am much indebted for being able to bring this case under the notice of the profession.

*State of the Case.*—On examination in the usual prone position, the floor or anterior, and part of the right wall of the vagina, within an inch of the cervix uteri, were found occupied by a transverse fistula, involving the fundus of the bladder posterior to the entrance of the ureters, and readily permitting the introduction of two fingers into the vesical cavity. Through the fistula a large hernia of the opposite wall of the bladder protruded, which was, however, reducible without much difficulty. The adjacent mucous surfaces presented traces of extensive injuries, the cervix uteri having partially sloughed away, and the uterine canal being quite occluded. The result of the latter condition was, that there exists amenorrhœa, with strongly marked menstrual molimen at the regular periods. In

other respects the patient was a very favorable subject for operation.

I proceeded to operate on the 27th of March, in the presence of a number of my professional friends, in the manner which I shall now describe in detail. The patient was placed on her elbows and knees on a table just sufficiently large to hold her, so that no change of position could be permitted, and with the nates presented to a strong light. No chloroform was exhibited, as I believe this to be a highly injudicious position in which to administer it, more especially as the operation is, generally speaking, comparatively painless, and also as considerable assistance may be derived from the co-oper-

ation of the patient herself. Bozeman's speculum being introduced, the parts were thus fully exposed, as seen in section in Fig. 1: *a* being the vesical wall, opposite the fistula, protruded through it; *b* the anterior lip of the fistula; and *c* the posterior; the space between them representing the fistulous opening. The difficulty presented by the protrusion of the bladder was overcome, and the process of paring or rawing the margin of the fistula rendered quite easy, by using spatulæ bent so as to adapt them for raising the anterior and posterior lips of the fistula respectively, at the same time depressing the vesical protrusion with the utmost facility. This latter indication is one of the



highest consequence; for on one occasion I saw a case of vesico-vaginal fistula placed on the table for operation where this difficulty could not be in any way overcome, the consequence being the abandonment—for the time at least—of the intended operation. The spatulæ I em-

ployed were of steel ribbon, about half an inch broad, and extemporized for the occasion. Reference to Figs. 2 and 3 will explain better than any description of mine their form and mode of application.

In Fig. 2 is represented the spatula, *d*, used

for raising the posterior lip of the fistula with a single strait limb. It is introduced from below, and rests upon the anterior wall of the vagina; and its handle, bent at right angles to the limb, is held downwards in a line with the thighs. The posterior margin, *c*, is represented as raised on the extremity of the spatula; the vesical hernia, *a*, and the anterior margin, *b*, depressed under the rest of the limb.

In Fig. 3 is seen the spatula, *e*, used for elevating the anterior lip. Its limb is double, or bent on itself, the convexity being introduced into the vagina. The point or free extremity of the limb is brought within the fistula till the anterior lip, *b*, is raised on it, and the hernia, *a*, and posterior margin, *c*, depressed below and behind it; while the handle of the spatula, also bent at a right angle to the limb, rises from the posterior vaginal wall, and is held in a line with the handle of the speculum.

Having introduced spatula *b*, and elevated the posterior lip of the aperture, I inserted the double hook (Fig. 8) into the mucous membrane of its vaginal surface, and detached it freely by means of the semicircular knife (Fig. 4), cutting with its convex edge, so as to make a raw bevelled margin. The spatula, *c*, was then introduced, the anterior lip raised, and the same process repeated on it. With the same knife, and with the assistance of this spatula, the lateral and somewhat angular margins of the fistula were similarly treated, the bevelling all round the margin of the fistula being effected entirely at the expense of the vaginal mucous membrane.

By means of Professor Simpson's tubular needle, represented with its improved curved form in Fig. 9, I introduced six sutures of No. 26 common iron wire; the point of the needle being entered in the vaginal membrane, at the distance of about half an inch from the anterior bevelled edge; then made to pierce midway between the vaginal and vesical margins of the bevelled lips of the fistula, and again brought out through the vaginal membrane, about half an inch beyond the posterior bevelled edge, the point being guided in its course by the blunt hook (Fig. 10) used by Bozeman. The sutures were then tightened, and the lips of the wound brought together, by drawing respectively on the ends of each suture passed through the eye in the instrument represented in Fig. 7, its oval, convex disc being pressed down on the line of the wound. The ends of each suture were then passed through the eyes of the twister (Fig. 5), which I first proposed for the purpose of fixing wire sutures. By giving two or three turns with this instrument, held in the right hand, while the ends of the sutures are held tightly in the left, perfect coaptation of the edges of the wound and fixing of the sutures may be effected at the same time. The manner of fixing the sutures, and their appearance in the line of the wound, are well seen in Fig. 6. Nothing could exceed the firm and regular appearance of the

wound as closed in the manner just described. A piece of lint, moistened in cold water, was now placed over the wound; the patient removed to bed, and placed on her back, with the knees bent and feet drawn up; the permanent pewter catheter introduced, and two grains of solid opium administered.

The progress of the case throughout was most satisfactory, the pulse never rising above 80; and no local pain complained of. Tolerance of the supine position was induced by occasional small doses of morphia in solution, to which the patient had recourse when this constrained position became irksome, and at the same time it obtained the essential condition of constipation during convalescence. On the seventh day, I removed the catheter, and only employed it every three hours, increasing the intervals gradually. On the ninth day, I removed the sutures with some little difficulty, as they had become quite embedded in the tissues. They were quite unaltered, and exhibited neither in themselves nor in the track whence they had been withdrawn the slightest trace of rust or corrosion, although they had for nine days been freely exposed to the action of the various fluids.

This property of "annealed" iron wire, in virtue of which it is termed "passive," was originally pointed out by Schönlein, but first offered in explanation of its non-corrosiveness, when embedded in the animal tissues, by Professor Simpson, in an able paper lately published on this subject. Twelve hours or so after the withdrawal of the sutures, the patient was for the first time permitted to empty her bladder spontaneously, which she accomplished without difficulty, and has continued to do so ever since.

To appreciate fully the advantages afforded by the operation for vesico-vaginal fistula I have just described, it is necessary to compare it with the elaborately-detailed processes and the imposing and extensive armamentaria of Drs. Sims and Bozeman, the transatlantic resuscitators of this originally British operation, or even as it has been simplified more recently by Prof. Simpson of Edinburgh. The method of operating in question resembles in principle the original operation of Dr. Sims, rejecting, however, the "clamps," or silver bars, to which he fastens the wires on each side of the wound, like as in the ordinary quilled suture. The feature of Dr. Bozeman's operation is his passing the sutures through a perforated metallic plate or "button," and then clamping them on with split shot; or as in the combination of the two recently proposed by Mr. Hilliard of Glasgow, and published lately in *THE LANCET*. Professor Simpson discards the button and split shot of Dr. Bozeman, and fastens the sutures simply through a circular ring or splint of twisted iron wire surrounding the wound. The professed object of the button is to protect the wound from the vaginal secretion, which, if normal in character, I hold to be the best dressing it can have.

The circular wire splint, on the other hand, is used with the intention of affording support to the margins of the wound, an indication not fulfilled by the button. Now, I conceive that if both these methods, so opposite in design, are perfectly successful in result, as they undoubtedly are, neither the lead button nor the wire splint are essential elements in its attainment, and must accordingly be regarded as superfluous. Besides, they increase to an immense extent the difficulties of the operation; much time is occupied by the manipulations necessary in their adjustment, and they are very apt to become displaced and disarranged. They ought therefore to be abandoned.

These considerations have been suggested to me by what I have observed in six or seven cases operated on in the various modes in question. The success of the operation, I hold, depends essentially upon the employment of metallic sutures; and the next and only other point of importance to be considered is the simplest and readiest means of adjusting or fastening them; this, I believe, is best accomplished in the manner adopted in my operation. I have also simplified the process of paring or rawing the margin of the fistula, by substituting for the straight and lateral knives and the two pairs of bent scissors used by Dr. Bozeman, the simple convex-bladed knife represented in Fig. 4, which can be readily swept round the edge of the fistula without a change of hand. The double hook will be found to give a better hold of the flap to be removed than any other bulky and comparatively unwieldy forceps and vulsella. The spatulæ, even where no vesical hernia protrudes through the fistula, or where there is little eversion of the vesical mucous membrane, will be found greatly to facilitate the exposure and steadying of the fistulous margin during the difficult process of paring.

I have taken the liberty of giving a sketch of Prof. Simpson's invaluable needle (Fig. 9), and of Dr. Bozeman's blunt hook (Fig. 10), for directing its point, to complete the drawings of the entire set of instruments which, with the exceedingly beautiful speculum of Dr. Bozeman, constitutes the entire armamentarium which I believe necessary for the performance of the operation. Simplicity of operative procedure combined with rapidity of execution are the two desiderata of surgery, and I think I have succeeded in reducing the operation for vesico-vaginal fistula as nearly as possible to these desired conditions. I trust I shall soon be in a position to bring one or two other cases illustrative of this mode of operating under the notice of my medical brethren,

Seachiehall-street, Glasgow, 18 9.

## Medical Societies.

JUNE—JULY.

### ROYAL MEDICAL & CHIRURGICAL SOCIETY.

F. C. SKEY, Esq., President.

#### PRACTICAL DEDUCTIONS FROM AN EXPERIMENTAL INQUIRY INTO THE INFLUENCE OF FOOD.

BY EDWARD SMITH, M. D., LL.B.,

Assist. Physician to the Hospital for Consumption, etc., Brompton.

The author in some preliminary remarks, referred to the large amount of vital action which is necessary to maintain life, and mentioned the various circumstances which he had noted during the continuance of a prolonged fast. He stated that the practice of administering arrow-root, or other fashionable foods consisting of starch, with water, under the impression that it was nutritious and easier of assimilation than wheat-flour, was indefensible, since it did not sustain the vital action to a degree capable of maintaining life, and that nature has not provided starch as food altogether apart from nitrogenous substances. He contrasted the action (or rather want of action) of starch with that of the cereals, and showed that the latter is nearly as great as that of any substances with which we are acquainted. He drew the distinction between an action which increases the existing amount of vital power and that which tends to prevent loss of vital power—two circumstances which in practice are commonly confounded; and showed that beef-tea, wines, and brandy can act only in the latter mode, whilst the cereals act in the first-named manner. Hence, in cases of prolonged exhaustion, where there has been more waste than supply, the former is not sufficient, and it is essential that the latter be added or substituted.

The action of milk is exceedingly analogous to that of the cereals both in extent and duration, and the combination of the two appears to be the most perfect kind of food. The casein is to the milk what gluten is to bread, and the oil in the milk with substances (respiratory excitants) which call it into action, in a manner quite analogous to the common combination of bread and butter, or of a mixture of fat and lean flesh. The author showed that milk and flesh were the best and most natural modes of administering fat, and altogether preferable to the administration of separated oils. He referred to the frequent use of skimmed milk in Germany as a medicinal agent, and of sour milk in Greece and America as a part of food; and explained the action of the former by its casein and sugar as respiratory excitants; and that of the latter by the advantage of administering lactic and other acids in that combination in the summer season and at other times, when the blood, by tending to undue alkalinity, is less capable of carrying on the oxydizing process. He showed



that in fevers skimmed milk is preferable to new milk.

As fats lessen the respiratory changes, they ought to be, and are, combined with other articles of food which increase them. The author referred to the importance of determining the reasons for the administration of both fat and starch, and showed that there is less difference in the relative amount of these two substances, used in different climates, than has been commonly believed. He attached importance to the physical properties of fat, and explained the beneficial action of that substance when applied to the skin. He thought this latter mode of employing fat to be especially fitted for cases of debility, with lessened appetite and perspiring, soft skin, in which state the waste is always greater than the supply. The beneficial action of sugar is insisted upon; and the love of the French for sugar and water was explained by the refreshing coolness, the innocuousness, and agreeable flavor of the fresh-made beverage, and the great freedom and lightness of the respiration which attend its action. He thought the ill effects of sugar in the healthy system had been exaggerated. The action of animal substances in increasing the respiratory process, in addition to the supply of plastic material, was dwelt upon, and shown to be of great value to the system. These are allied to gluten, and some of them probably act as ferments; and, in illustration, he especially cited cheese, which promotes assimilation, if taken in small quantity, but is apt to disturb it if much eaten. Tea was shown to increase waste, and to excite every function of the body, and hence was well fitted to cases where there was a superfluity of material in the system, or where we otherwise desire to induce a temporary increase in the vital action; but is injurious to those who are underfed, or in any case where there is greater waste than supply. In illustration, the author cited the increase in the loss of weight in the prisoners at Wakefield when tea was added to their food. The action of tea has been hitherto misunderstood, but the sagacious observation of Liebig as to its analogy with the active principle of the bile was much commended. He (Dr. Smith) recommended its use instead of spirituous liquors by soldiers on march, or otherwise exposed for a lengthened period to great heat; since by its powerful influence in increasing respiration and the action of the skin, without increasing pulsation, it was particularly fitted to counteract the influence of heat in its tendency to induce heat-apoplexy, or, as more suitably termed by Mr. Longmore, "heat-asphyxia;" twenty-five grains of tea in a concentrated cold infusion, taken every hour or half-hour during exposure, would suffice. For similar reasons, he urgently recommended it as an adjunct in the treatment of suspended animation, as from immersion. It has a rapid and accumulative action, so that the small and repeated doses have much greater effect than larger and more isolated ones. It differs from

the coffee chiefly by increasing the action of the skin, and thereby tending to cool the body, and therefore the two substances are applicable to different conditions of system. He thought that both, and particularly tea, ought to be more commonly used as medicinal agents. Coffee-leaves he believed to be a valuable febrifuge medicine, and one particularly fitted for cases of nervous excitability.

The author then contrasted the effects of brandy and gin with tea, and showed that in all respects they were directly opposed; but coffee so far resembled them in action, that it lessened the action of the skin, and thereby lessened refrigeration. Rum and beer he regarded as restoratives, and the combination of rum and milk as the best restorative employed as food; whilst brandy and gin simply lessen waste. He considered all alcohols as having their chief influence in sustaining the action of the heart, and recommended that they should be given in small quantities, and repeated every quarter of an hour in urgent cases, so as to accumulate their action, rather than to allow retention to follow each dose by permitting a long interval between the doses. He mentioned a case in which he gave six bottles of port wine in forty-eight hours, with the effect of saving the patient's life, and reducing the pulse from 150 to 90 per minute. He believed that alcohol increased the respiratory action indirectly through the nervous system, and in fine old wines and spirits this action is lessened by the volatile elements, which have a conservative tendency. He particularly cited the conservative influence of fine old port wine, and the disturbing influence of new and inferior spirits. The primary and secondary action of all alcohols, when taken in an amount to affect the sensorium, was always felt, and the author described the attendant circumstances.

In conclusion, Dr. Smith stated that dislikes for food are indicative of lessened action, and that other foods of analogous properties should be provided in such cases; and also that it was probable that at least some kinds of azontized substances are more fitted for the hot season, when the chemical changes are greatly reduced, than has been heretofore believed.

Dr. Stallard said, however valuable the facts stated by the author, they should nevertheless, be received with a certain amount of caution, and that a wider view of the case should be taken than that presented in the paper. The recommendation of bread, in preference to beef-tea, seemed so opposed to the general experience of the profession, that it ought not to be received without further confirmation. Dr. Smith's experiments, however, were upon a very healthy person, and this possibly might make all the difference. Beef-tea might be absorbed by the simple law of the percolation of fluids through membranes; and bread had to undergo a distinctly assimilative process, which in a weak patient might be easily carried on. The author scarcely took into consideration the influence ex-

erted by fat in the assimilation of non-nitrogenous as well as nitrogenous foods. It was possible that fat, instead of being assimilated, might pass out in the faeces. With regard to tea, it no doubt produced a greatly increased respiratory action; but the question was whether the increase was temporary, or whether it had a permanent specific effect, due to the composition of the tea itself. It might possibly have an ultimate depressing effect. He inquired whether the author's experiments showed any increase of the vapor expired after the use of alcohol?

Dr. J. A. Wilson said that the paper was of such an unreasonable length, that it precluded anything like an adequate discussion of its statements—an evil which, he said, was unfortunately growing upon the Society. He agreed with the author's remarks as to the importance of fat in supplying loss by perspiration. Liebig's statements had led to the inference that fat was not used in warm countries; but in the course of Captain Sturt's journeys in the interior of Australia, where the heat in the deserts was most intense, he and his followers ate fat with the greatest avidity, their desire for it departing only when the heat subsided. Other instances of a similar kind had been recorded. The utility of casein to aid digestion had been long known, since Shakespeare made *Ajax* address *Thersites*, "Come my cheese, my digestion." (A laugh.)

Dr. Smith said, in reply, that the influence of all food was, of course temporary. He had continued his experiments for two hours, and when food was taken at the end of that time he did not think that any depressing influence would be found to have been produced by the tea previously taken. Fat, he believed, in no way tended to increase the action of starchy food. Where fat had been added to starch, arrowroot, or sugar, the action had always been lessened. When alcohol was inspired, the vapor from the lungs was increased, owing probably to a local action; but when it was taken internally, the difference in the vapor exhaled was not material.

ON A CASE OF CONTRACTION OF THE HEEL (TALIPES EQUINUS) FROM EXCESS OF ACTION OF THE MUSCLES OF THE CALF.

BY HOLMES COOTE, ESQ.

Assistant-surgeon to St. Bartholomew's Hospital, and to the Royal Orthopaedic Hospital.

Mr. Coote communicated the particulars of a case to illustrate a form of talipes equinus not commonly recognized. There was no paralysis of any set of muscles; the flexors and extensors of the leg being firm and well nourished. But there existed a loss of balance of power between the two; and the flexor muscles gradually drew up the heel so as to keep the toes permanently pointed downwards. The first indication of this morbid state was often overlooked by the surgeon. The foot was contracted and held fast when raised to a right angle with the leg;

and patients tripped and stumbled in walking from the toes catching in any object on the floor. The disease had often been mistaken for incipient disease of the hip, in consequence of of the irregularity in the patient's gait. The remedy consisted in the division of the tendo-Achillis, and in the very gradual extension of the twisting medium. The muscles of the calf were very often much more highly developed than usual: this hypertrophied state commonly subsided after treatment. A boot and iron were frequently needed during convalescence.

Mr. Solly said that the statement of the author, that the cases referred to were very little known, was incorrect, as hospital surgeons were familiar with them.

ON SOME OF THE EFFECTS OF PRIMARY CANCEROUS TUMORS WITHIN THE CHEST.

BY GEORGE BUDD, M.D., F.R.S.

The object of this paper is to call attention to the changes that are produced in the nutrition of the lung by a primary cancerous tumor involving its root. Primary cancer within the chest usually forms a single compact nodular mass, commonly occupying the mediastinum, and invading, to a greater or less extent, one of the lungs—in the great majority of instances, the *right*, the other lung remaining uninfected.

The author gives the details of three cases of this kind that have fallen under his observation in King's College Hospital, in all of which the tumor involved the root of the right lung. In all these cases, remarkable changes of inflammatory origin were found in the chest. These changes consisted in the order of their frequency, of—

1. Firm adhesion of the lung to the walls of the chest by thickened pleura.

2. Inflammatory condensation of the lung, where it was not invaded by the cancer, proceeding, in all of the cases, to more or less disorganization of the pulmonary tissue, and the formation of pockets of pus.

2. In one of the cases—the case in which the tumor had attained the greatest size and spread furthest towards the left side—adhesion of the pericardium, and an abundant effusion of lymph on its outer surface.

The extent of change in the lung in the different cases was greater as the tumor was larger, and involved more completely the root of the lung; and in all the cases the left lung was free from adhesions, and presented no other changes than those which result from recent congestion. The question is then discussed, how these changes of inflammatory origin were caused; and from a review of the circumstances of the cases, the author considers it most probable that they resulted from the tumor involving and destroying all or great part of the pulmonary nerves, and that consequently the inflammatory disease of all the tissues of the lung in these cases is analogous to the destructive inflammation of

the eyeball that results from division of the fifth nerve within the skull. It is remarked that the lung resembles the eyeball in this: that all the nerves which supply it are comprised at its root in a very small space, so that they can there be destroyed or paralyzed—and the organ, in consequence, be deprived of all nervous influence—by disease of no very great extent.

Primary cancer involving the root of the lung is a rare disease. The three cases related above are the only instances of the kind that have fallen under the author's observation in King's College Hospital since it was first opened for the reception of patients in 1840. The disease is, however, so peculiar in its effects that—as was shown by Dr. Stokes in an admirable paper upon this subject published in the *Dublin Journal of Medical Science* for 1842—a diagnosis of it may sometimes be made with much confidence. The elements of the diagnosis consist—

1st. In the signs that give evidence of the existence of a tumor.

2ndly. In the absence of strong pulsation and of the morbid bruits that usually attend aneurismal tumors.

3rdly. In the occurrence of hæmoptysis and other signs, showing that the *lung* is involved in the disease.

4thly. In a distended and varicose condition of the superficial veins of the chest.

A cancerous tumor usually affects the venous circulation and the nutrition of the lung more than an aneurismal tumor of the same size, because it grows into and blocks up the veins, and converts into cancer the other tissues which it embraces in its growth.

Dr. Brinton confirmed Dr. Budd's suggestion, by recalling some analogous cases, observed and published by him (Dr. Brinton) many years ago. In one ("Pathological Transactions," 1848, vol. i. p. 235; also compare "Pathological Transactions," 1851, vol. iii. p. 304); the left pneumogastric nerve, and root of the left lung, had been involved in an aneurism; in the other a simple fibrinous deposit had involved the right bronchus near its origin. In each, the corresponding lung had been inflamed; and the inflammation had been explained by him, in the above publications, as a secondary result of the interference of the primary lesion with the pulmonic nerves.

Dr. Budd in reply to a question from the President, said he was aware of a case in point published in the Society's "Transactions" by Dr. Burrows. With respect to the cases mentioned by Dr. Brinton, he (Dr. Budd) thought that cancer was more effective in producing ill effects than other kinds of tumors, as it penetrated deeper into the tissues, and led to the complete destruction of the lung. The question of interest was this: does the tumor lead to destructive inflammation of the lung by the

pressure it excited on the bloodvessels or on the nerves? This question was, perhaps, not decided by the cases before the Society; but his own impression was, that it was upon the nerves that the injurious influence was exerted.

Dr. Barker recollected three cases that had occurred in St. Thomas's Hospital which tended to confirm the opinion of Dr. Budd. In each of these cases there was extensive cancerous deposit in the anterior mediastinum, involving the root of the lung but not the nerves. In neither of these cases was there inflammation of the lungs or pleuræ.

#### ELEPHANTIASIS OF THE SCROTUM; OPERATION; RESULTS.

BY HAYNES WALTON, ESQ., F.R.C.S.

THE author has been consulted by two patients with elephantiasis. Both were from Barbadoes. The first was in 1847. The disease was incipient. An operation was recommended, but overruled. The second was in September of last year, in the person of an athletic quarantine officer, aged forty one. The scrotum was rough and indurated, with the characteristic firm and solid swelling. There was neither pain nor inconvenience beyond that caused by the bulk. The skin of the penis was similarly affected. Just four years ago inflammation appeared at the lower part of the scrotum, and, on subsiding, left some hardness. Each year there have been several similar attacks, and every one has added to the enlargement. Treatment, both general and local, failed in the hands of different men. The patient desired an operation rather than submit to the inevitable fate of steady increase of the disease. Mr. Walton recommended operating, especially as the growth had not yet attained to that size by which the great dangers from shock and loss of blood are risked. The possibility of being obliged to remove the testes was clearly pointed out. The evident vascularity of the part, and the known tendency to hæmorrhage, difficult to control, induced Mr. Walton to adopt the following plan, which served the double purpose of effectually preventing the possibility of untoward bleeding, and enabling him to get the testes completely out of the way:—the scrotum was raised and pressed on for a few minutes, so as to empty it of as much blood as possible, and then with a large needle, such as is used by upholsterers, threaded with strong twine, he tied it in segments close to the trunk—first pushing up the testes, so that they were quite above all that he intended to remove—and cut close to the nooses. As each strangulated part was liberated, the vessels were secured, and altogether twenty were tied. An attempt was made to effect adhesion by first intention, and with the best results. Although it was necessary to push up the testes, and draw the wound together with much force, which produced great strain on the sutures, nearly the entire wound united at once. The penis was then denuded

of its diseased skin. This healed over quickly. Respecting the pathology, the author remarked, that subacute diffuse cellular inflammation of the integuments produced the organic changes. As to the morbid anatomy, it appeared that the epidermis was much thickened, but the true skin particularly so. The connective tissue between the scrotum and the testes was greatly hypertrophied, and intersected by large areolæ. The patient left London six weeks after the operation.

#### PECULIAR VASCULAR TUMOR OF THE RECTUM.

BY R. QUAIN, ESQ, F.R.S.,  
Surgeon to University College Hospital.

The object of this paper is to describe and to discuss the nature of a tumor of the rectum, of which the author has found no account in books. The chief characters of the growth are its vascularity and the absence of hardness, the surface being studded over with thick papillary vascular prominences of various shapes. These, in fact, form the chief and most characteristic part of the mass. The tumor had no connection, except with the mucous membrane of the bowel, from which it was an outgrowth. The author believes the disease not to be malignant, and he grounds his judgment upon the history of cases, upon a comparison with other cases, and upon the result of the examination of the structure of the tumors he removed in practice.

Mr. SPENCER WELLS had removed a growth, of a character similar to that in Mr. Quain's case from the interior of the bladder of a woman. This patient was at first thought by the gentleman who saw her to be suffering from stone; but, on sounding, no calculus could be detected. There was considerable bleeding after each act of micturition, the blood following on the evacuation of the urine. Gallic acid was administered, and the bleeding diminished; but the hæmorrhage again returned, and the woman was reduced to an alarming state of anæmia and debility. She was again sounded, but no calculus was discovered. He (Mr. Wells now determined to examine the bladder more fully, and dilated the urethra by means of a sponge tent. The dilatation was affected in two or three hours. Near to the neck of the bladder a soft villous tumor, about the size of a large strawberry, was found. This was cut away with a pair of scissors: no ill effects followed, and the woman remains well. He thought, with Mr. Quain, that it was evident these tumors were not of a cancerous nature.

Mr. HENRY LEE related the case of a man who died at King's College Hospital after severe hæmorrhage from the bladder. After death a tumor, similar to the one in Mr. Quain's case, was found. The villous projections were about half an inch high, with ragged terminal vessels, whence the bleeding had proceeded. This case was one of chronic disease.

Dr. O'CONNOR mentioned the case of a woman who was operated upon successfully in the Roy-

al Free Hospital by Mr. Gant. She suffered from a tumor in the rectum similar to that in Mr. Quain's case.

#### PREPARATIONS FOR PRESERVING ANIMAL SUBSTANCES.

Dr. BRINTON stated that the preparations before the Society were exhibited by Professor Raddi, Honorary Professor of Zoology, and formerly one of the Conservators of the Museum at Florence. They illustrated three processes discovered by that gentleman. The first, showing a specimen so hard and heavy as almost to deserve the name of a petrification (the liver, heart, and lungs, attached to each other), was intended for permanent dry preparations, in which the color and size of the original tissues were completely preserved. The second formed a dry preparation, which, on being moistened, could be dissected as though it were fresh. The third was a process applicable to meats, &c., intended for eating (and therefore devoid of the poisonous ingredients of the two preceding processes); and was illustrated by a piece of cold roast sirloin, thus prepared some two or three months ago, and retaining its characteristic color and smell, though a little shrunk in size. As regarded the latter process, Dr. Brinton regretted that the proverbial proof of its perfection was not at present in his power to give. The Government, and various savans, intended, he believed, to test its usefulness. Certainly, if it fulfilled its promises, it would not only be much simpler and cheaper than the costly methods of preserving in tins, but would probably avoid that comparatively monotonous sodden flavor which the existing means of preserving meat implied; and flavor, he need not say, was in some sense a test of food, as well as an inducement to eat it. The second process, too, seemed likely to be valuable. But it was by the first that he thought the Society would be most interested. Many teachers of anatomy and medicine (in which term he of course included surgery) must have felt as he had, the deficiencies of our museums in respect of large dry preparations. In wax, they demanded a high order of talent for their execution; and their costliness was only equalled by their fragility; so that a lecturer scarcely liked to uncover a valuable wax cast from its glass shade, and send it round a large class. Plaster, again, admirably adapted, when colored, to give a cheap and effective representation of diseased surfaces or limbs, utterly failed to convey the details or relations of internal parts. Avoiding all these faults, Dr. Raddi's method did seem to him (Dr. Brinton) to promise to supply a great desideratum: large pieces of healthy or morbid anatomy, perpetuated (rather than represented) with perfect accuracy. How few, for example, were the good natural skeletons of our London museums! How useless for accurate teaching, the artificial and distorted thorax of a skeleton, as ordinarily articulated! But Dr. Raddi's process promised to give, not only all the costal cartilages, but all the viscera beneath, with their

normal size, shape and relations. He would only add, that it was Dr. Raddi's wish, he believed, to dispose of his secret, either to a single institution, or to any museums or similar institutions which might combine to purchase it, and that, for its application, a mere immersion of the preparation, without dissection or injection would suffice.

## OBSTETRICAL SOCIETY OF LONDON.

DR. RIGBY, President.

The President exhibited a preparation of the liq. ergot, made by Messrs. Curtis, which he had been in the habit of using with advantage for some time.

Mr. Pound, of Odiham, exhibited an "Encephalous Monster."

### ON A CASE OF INFANTILE SYPHILIS, WITH REMARKS.

BY T. H. TANNER, M.D.,  
HONORARY SECRETARY TO THE SOCIETY, &c.,

The author commenced by observing that amongst the diseases which may be propagated from parent to offspring, few are more disastrous in their results than constitutional syphilis. It is probable that the syphilitic poison is the direct cause of the greatest number of abortions and premature labors which occur in the present day; and that even when it fails to destroy foetal life at an early period of gestation, it induces other severe disorders, having a fatal tendency at a more or less remote period. The chief points of interest in the case then related are the following:—

In August, 1851, a married lady was delivered of her first child, which was strong and healthy, and has since continued to be so. Soon after her labor the husband contracted a syphilitic sore from a prostitute, for which he put himself under the care of an eminent surgeon. He took mercury, and was salivated; but two months after an apparent cure he became affected with secondary symptoms, for which he again took mercury. Being nervous as to the consequences, he did not have intercourse with his wife until after the lapse of nine months from the date of his being primarily affected. At the commencement of 1853, the wife's health began to suffer, though not very materially; but on the 12th June of the same year she was delivered at the seventh month of gestation of a still-born child. Some months afterwards her health began more decidedly to fail; spots appeared on her skin; she had a sore-throat, and her hair came off. In May, 1854, she gave birth to her third child; it was dead, and she fancied she had not gone more than six months and a half with it. In November of the same year she aborted at the third month. In August, 1855, she had a child born dead at the sixth month; and in October, 1856, she was delivered at the eighth month of pregnancy of another dead child.

In March, 1858, she first became a patient of Dr. Tanner, and was then put upon a course of bichloride of mercury for three months. On the 24th of last September she was delivered of a seemingly healthy live child; the labor took place some three weeks before its proper time. The infant only remained well about a fortnight, when it manifested all the symptoms due to constitutional syphilis. The treatment consisted in the inunction of mercurial ointment, no medicine of any kind being given by the mouth. In a month the child was apparently well in every respect, so that all medical treatment was discontinued; but a fortnight afterwards it died suddenly. At the post-mortem examination, every organ was found healthy, the brain, lungs, thymus gland, heart, &c., all presenting a perfectly natural appearance. The only change was in the blood, which seemed to be more watery than it ought to be.

The paper concluded with some remarks upon constitutional syphilis in infants, and with the recital of a case partly resembling the foregoing, recorded by old Richard Wiseman, Serjeant-Chirurgion to Charles the Second.

### INVAGINATION OF THE INTESTINE IN A CHILD, AGED TWENTY MONTHS, SUCCESSFULLY TREATED.

BY T. BALIARD, ESQ.,

The child became affected with invagination of the intestine, in consequence, as the author believed, of "fruitless sucking." The facts in support of the theory of fruitless sucking being a cause of this and other disorders of infancy, he had already brought before the profession. In the instance now adduced, the child was cured, the sucking having been discontinued, and certain remedies administered.

### ON THE MORE FREQUENT USE OF THE FORCEPS AS A MEANS OF LESSENING BOTH MATERNAL AND FETAL MORTALITY.

BY PHILIP HANFEN FRCS. (BY EXAM.), ETC.,

The author first examined the question,—What are the ill effects, either to the mother or child, produced by the forceps?—and endeavored to show that not one of those usually ascribed to them could properly be attributed to the use of the instrument itself, but only to its abuse. He then showed, from various authorities, that the causes of maternal death after this use were the same as after unassisted tedious labor, and therefore, that their origin must be sought in the delay, rather than in the use, of the instrument, especially so long as it was only applied in the extreme cases of tedious labor. The causes of the large foetal mortality are likewise to be found in the long-continued and violent efforts made by the uterus on the child previously to its application, and which are more fatal than the compression of the instrument in the proper direction. He then showed, from the cases of unassisted tedious labor reported by Johnson and Sinclair, that mere duration alone, without any abnormal circumstance, is a main element in rendering labor

dangerous; fully confirming the law laid down by Dr. Simpson, and which holds good both in mother and child. He went on to examine the same works, and found that both the maternal and foetal mortality in their cases was greater in tedious labor than in their forceps cases. The maternal mortality in their craniotomy cases was greater than in either. Having spoken of the general powers of the instruments, as extractors and rectifiers, he then examined them as compressors, in order to discover how much compression might safely be exercised upon the foetal head. He mentioned some experiments of his own upon children still-born after footling, and other such cases, where he applied forceps immediately after birth, and fastening the handles together with india-rubber springs, had left them on for a time, with the effect of much altering the form of the head, and diminishing its diameter, without any apparent injury to the brain. These cases, of course, only bear slightly upon the question of compression previously to the child's death. The brain must be pressed in a direction parallel with the base of its anterior lobes, to produce the dangerous effects spoken of by Radford and others. In practice this is not really so easy, as it is to apply them so that the pressure may be excited upon the prominent parts of the frontal bone anteriorly, and the junction between the middle and lower thirds of the occipital bone posteriorly. When applied thus, and compression gradually exerted, the posterior mass of brain is lifted into the hollow of the forceps, whilst the anterior lobes are depressed. This movement being similar to the one adopted by nature in moulding the head into the long oval shape. The author then briefly spoke of the various states which may call for the use of the forceps, dwelling more particularly upon those dependent upon some peculiarity existing in the uterus itself, such as rheumatism, spasm, irregular action of its fibres, irritability and debility, and which are very frequent causes of lingering and tedious labor. The period of the labor at which they should be applied is a very important question, and it must ever be remembered that two lives are at stake. It is not enough to show a small maternal mortality, but we must also have a small foetal mortality. The second stage of labor ought to be steadily progressive, and if such be not the case, we ought to interfere. Careful study of the positions assumed by the child's head, whilst passing through the pelvis, and not subjected to forcing pains without progressing, show that the earlier they are applied, the more favorable is the position in which they compress the head. The mother is exhausted, flooding is avoided, the soft parts are uninjured, and the child is alive. In short, long delay previous to their application destroys the efficiency of the instruments themselves, and prevents the good effects otherwise attainable. In examining the various states in which their early use is advisable, the author dwelt especially upon inertia

and sluggishness of the uterus. He was of the opinion, that to rouse an overworked and overtaken organ to fresh exertion, was a very questionable proceeding. He brought forward various statistics to show that ergot exerted a most baneful and deleterious action upon the foetus, and must be considered a poison to it. He had long ceased giving it under any circumstances previous to the birth of the child, but always used the short forceps instead, and with very great advantage, both to mother and child. It was in this class of labors that all the cases of short forceps which he had recorded were found. In cases of disproportion, which for any reason did not admit of turning, the forceps should be applied early, especially as there is nothing more dangerous than the head being impacted in any one position. In bringing forward various statistical tables to prove the proposition, that "the earlier and more frequently the forceps are applied in proper cases, the more maternal and foetal lives are saved," he separated all arm, breech footling, and placental presentations, together with their maternal and foetal mortality. It is necessary, also, to separate puerperal fever cases and those in which death arose from other labor causes, or from constitutional causes coincident with the occurrence of labor. The necessity for thus dealing with the statistics, in order to arrive at a just conclusion, prevented his using all the obsteric histories which have been published, as they do not all contain these data. He examined Collins, Hardy, and McClinton, Johnston, and Sinclair, and his own statistics, and from them considered the proposition confirmed and proved. He concluded by hoping that the Fellows would give his various propositions and statistics their calm consideration, and not reject them because the results were startling, and contrary to general opinions.

Mr. Harper, in answer to questions from Dr. Barnes and Dr. Drutt, stated that in his private cases there has been no maternal mortality; there was a mortality from all causes of 1 in 500. The class of cases was mixed: 4000 and upwards were in a mining district.

Dr. Tyler Smith thought it would be satisfactory to the Society if the facts related by the author were a little more substantiated, for the following reasons:—Those facts were peculiar. 6000 cases was a large number for one man to have attended, amounting to 300 per annum for twenty years. The results were gratifying in an extraordinary degree. There were 300 forceps cases and only 2 deaths. Usually the deaths were 1 in 20. In Johnston and Sinclair's recent work, with the worst cases eliminated by craniotomy, the mortality in forceps cases was 1 in 20. In Mr. Harper's cases it was stated to have been 1 in 150; and he appeared to have used the forceps with extraordinary frequency—once in 26 cases. Believing that the forceps might be much used, he yet considered this proportion far too frequent. There was an ad-

vantage in the statistics from public institutions, that they were perfectly reliable and open to investigation. He would certainly like to have some guarantees of the practice detailed in the paper. The consultation practice detailed was large.

Dr. Murphy was old-fashioned and sufficiently "parrot-like" to repeat the adage that a "meddlesome midwifery is bad." The forceps had been used by the author of the paper to an unwarrantable extent. He remarked on the absence in the paper of details as to the causes producing the prolonged labor. False figures were infinitely worse than false facts. He would ask, Had the fellows met with the high mortality from tedious labors, in their everyday practice, which was laid down by the author? In face-presentations the forceps was not necessary. Nature required time, and time should be given her. He believed that more lacerations were caused by the forceps than in any other way.

Dr. Barnes observed that in the Royal Maternity Charity, the statistics of which he would adduce, the mortality was very low: in 10,000 cases the mortality was 1 in 400 or 1 in 500, rarely over 1 in 400. In that charity the kind of practice detailed by Dr. Murphy was faithfully carried out. Nature is allowed to act, and the forceps is rarely used. He thought that, to serve a useful purpose, the author should have divided his facts into two kinds,—those in which he did not, and those in which he did, use the forceps extensively. Disposed to go as far as any one in reason, he still thought the use of the forceps once in 26 cases was far too frequent.

Dr. Granville had formerly much experience, and in many thousand cases directly or indirectly under his control he believed the forceps had been used only fifty times. He was astonished both at the number of cases and at the number of applications of the forceps.

Mr. Harper, in reply, stated that many questions put by Fellows would have been unnecessary had there been time to read all parts of the paper *in extenso*. With reference to the facts upon which comment had been made, he could only say that they were as stated. He had practised until lately in a large mining district, where it was not at all unusual for one medical man to put 500 women to bed in one year.

## PATHOLOGICAL SOCIETY OF LONDON.

MR. FERGUSSON, President.

Dr. Wilks exhibited specimens of

### SYPHILITIC FIBROID DEGENERATION OF TESTES.

These came from a man who died of laryngeal disease and other syphilitic affections; they were about half the natural size, and their section showed a fibrous tissue taking the place of the healthy structure. The exhibitor stated that

he had met with several such specimens, and in one, which he also showed, the gland tissue was entirely destroyed by the presence of fibrous nodules. In all these cases the existence of syphilis was unequivocal; in none could he discover that there had been any symptom during life, and therefore he believed the disease was not the result of orchitis, but rather a degeneration.

Dr. Wilks next showed a specimen of

DISEASED SUPRA-RENAL CAPSULE AND BRONZED SKIN. This was sent by Mr. Welford, of Bishopwearmouth, to Dr. Addison with the history that it came from the body of a young man who had been complaining for several months of extreme debility without anything to account for it, although his friends had remarked his skin becoming darker, and which they styled jaundice. When first seen by the medical attendant, the whole body was found to be of an excessively dark color, but some parts more so than others, and the genital organs were almost black; the debility was extreme, and he was also troubled with vomiting; these symptoms continued until death. A post mortem examination was made, and the organs were said to be healthy, with the exception of one of the supra-renal capsules, which was sent to London. This was stated by Dr. Wilks to be diseased in the usual manner, the normal structure being replaced by albumino-cretaceous deposit.

Dr. Wilks showed

SIXTEEN CALCULI REMOVED FROM THE BLADDER. A man about sixty years of age was admitted into Guy's Hospital, under Mr. Cook's care, in a dying state; calculi were detected in the bladder, but it was too late to operate, and death occurred in a few hours. On post-mortem examination the kidneys were found diseased and the bladder immensely enlarged; and in the latter were contained sixteen calculi, all of equal dimensions, the diameter of each being equal to that of a shilling piece.

Dr. O'Connor wished to know whether, in the first cases related by Dr. Wilks—those of syphilitic disease of the testicle—it was known what was the situation of the primary sore.

Dr. Wilks.—It was not.

Dr. O'Connor said that his reason for asking the question was that he observed that syphilitic disease of the testicle was invariably the result of urethral chancre. This was a very important practical question, to which he wished to direct the attention of the members of the Society. Since his connection with the Royal Free Hospital, he had had extensive opportunities of noticing this fact. Many such cases were treated as gonorrhoeal affections, and were invariably followed by severe secondary symptoms. His (Dr. O'Connor's) attention was first directed to this subject in consequence of the great number of cases of apparent phthisis that



presented themselves to him at the Royal Free Hospital. In those cases, all the constitutional evidences of phthisis existed, but there could not be detected any of the physical signs of that disease, and by inquiring into the history of the patients, syphilis was found to have existed previously. The judicious use of mercury was almost always successful. In one of these cases, the patient, who denied having had syphilis, but whose condition was supposed to depend on syphilitic taint, was treated with mercury, and, within a week, the cough, which was constant, and the abundant night-sweats, entirely disappeared. He said that one of his testicles, which for two years was as large as a cricket-ball, was getting soft and small. On examination of the urethra, there were discovered two small indurations, like the halves of a split-pea, rubbing against each other. In this case the mercurial treatment was persevered in, and the testicle restored to a healthy condition; the urethral chancre also disappeared. Dr. O'Connor states that there is recorded in a late number of the *Dublin Quarterly Journal* a very interesting case of infantile syphilis, which is described to be of pseudo-syphilitic origin. The mother of the child is stated to be perfectly free from disease, whilst it is recorded of the father that six months before his marriage he had an attack of gonorrhœa, but he never had any sores on the genitals. Dr. O'Connor believed that it would be found on examination of the father of the child that urethral chancre existed, to which the condition of his offspring might be traced, and that a chancre existed in the urethra at the time of the supposed gonorrhœal attack.

Dr. J. W. Ogle related a

CASE OF EPILEPSY WITH FACIAL PARALYSIS, IN CONNECTION WITH DISEASE OF THE INTERNAL EAR, FOLLOWING SCARLET FEVER AND ABSCESS OF THE BRAIN.

The patient was a woman, aged twenty-two, who for many years had had discharge from one of her ears, coming on after scarlet fever. For ten days before admission into St. George's Hospital, she had had sharp pain in the ear, and two days afterward was attacked by a violent epileptic seizure, which left her with the mouth and features drawn on one side. At this time there was much febrile disturbance, and albumen in the urine. The right eyeball was also found to be drawn inwards, and there was great general restlessness. There was, however, no permanent loss of consciousness, and the patient sat up and read in bed. She sank, however, and died. On post-mortem examination, much pus was found under the pericardium covering the right temple, and pus existed in the diploe of the skull at this part. There was considerable caries of the petrous portion of the temporal bone, with sloughing of the corresponding dura mater, an abscess of the size of a walnut in the middle lobe and the right cere-

bral hemisphere, and also extensive deposits of fibrin in a laminated form, part of which was quite softened and puriform in the right lateral sinus and neighboring veins. Dr. Ogle looked upon the abscess in this case as caused by the plugging up of the veins of the affected part of the brain, and consequent softening. He took occasion to speak of this as one of the ways in which abscess of the brain is often traceable to disease of the ear; the veins of the ear becoming affected, and then the sinuses into which they empty themselves, owing to which the cerebral veins become in their turn affected.

Dr. Ogle also related a

CASE OF HEMIPLEGIA, IN CONNECTION WITH PNEUMONIA, AND ABSCESS IN THE LOWER AND BACK PART OF THE CEREBRAL HEMISPHERES, AND FIBRINOUS PLUGS OF THE LATERAL SINUS AND SEVERAL CEREBRAL VEINS.

The patient was a man aged twenty-six, who was brought into St. George's Hospital with pneumonia on the right side of four days' standing. Of this he got better, but suffered a relapse; at the end of a week, however, he was pretty well again, under the use of calomel and opium and blisters. After this, some affection of sight in the right eye came on; his pulse was languid; he often complained of sharp pain, at first referred to the occiput, and afterwards chiefly to the left temple. He was one morning discovered quite unconscious, and without muscular power on the whole of the left side of the body. He died comatose.

On post-mortem examination, the superior longitudinal and the left lateral sinuses, along with a large number of veins tributary to these channels, were found plugged up by firm dark fibrine. The arachnoid cavity on the left side contained a large quantity of purulent fluid; and a cavity, containing a small collection of purulent fluid, of the size of a hazel nut, and lined by a loose membrane, was found beneath the surface of the posterior and lower part of the middle lobe of the cerebral hemisphere on the left side. The lungs contained several patches, in a gray, hepatized condition; and one or two abscesses. Dr. Ogle looked upon the abscess of the brain as being the result of the prolonged congestion, softening, and other changes following upon the plugging up of the cranial sinuses, and of the small veins returning the blood to them from the affected parts of the brain; and thought that this might be considered as an instance of one of the results of occlusion of the veins by old-standing coagulum—results in such an organ as the brain quite as disastrous as those consequent upon plugging up of the arteries. Dr. Ogle was inclined to consider the coagulum in the veins and sinuses as having a common origin with the pneumonia—some cause existing tending to the elimination of fibrine into the textures of the body, and to its precipitation in the bloodvessels.

## EPIDEMIOLOGICAL SOCIETY.

Dr. J. B. Sanderson read a paper entitled,—

## AN ACCOUNT OF AN EPIDEMIC OF DIPHTHERIA.

The epidemic in question occurred in the small rural parish of Hertingfordbury, in Hertfordshire. This parish occupies a somewhat triangular space between the river Lea and its branch, the Mimeran, which unites with it immediately above the town of Hertford. The epidemic was confined to the village of Hertingfordbury, favorably situated on a gravelly slope on the southern bank of the river Mimeran, and to a few small hamlets on the elevated ground between the two rivers, where the slight inclination and the impenetrable nature of the sub-soil are alike unfavorable to the removal of surface-water. The outbreak commenced at the end of October, 1858, attained its acme early in December, and suddenly ceased towards the end of the year. Fifty-three persons were attacked in a population of 750, of whom 47 were children. There were 14 deaths, all of children under twelve.

1. *Characters of the disease.*—Pain in the throat, generally inconsiderable, sometimes severe; either preceded by slight pyrexia or not; coryza occasionally preceding all other symptoms for some days.

*Local changes.*—Fauces at first congested: membranous exudation, commencing on one, or both, tonsils, usually within twenty-four hours from onset, spreading *continuously* to soft palate, uvula, pharynx; forming, when first seen, a white opaque patch, with elevated edges, surrounded by a narrow border of bright carmine. It is soft and inelastic, and can be easily detached, leaving an intensely congested, bleeding surface, free from ulceration. It is capable of separation into layers, and consists throughout the whole substance of nuclei and nucleated cells, embedded in granular or dotted fibrine. The author inferred from his examination, that the membrane, when first formed, consisted mainly of cellular elements, the latter exudations containing more fibrine.

*Condition preceding death in fatal cases.*—In most cases countenance pale, skin cool, pulse rapid, and eventually so weak as to be imperceptible; no appearance of dyspnoea, the patient remaining in a condition of tranquil drowsiness, from which, however, he could easily be roused. In one or two instances, there were paroxysms of suffocation, with cyanosis and violent jactitation; extreme prostration during the remissions. The urine was found to be albuminous in most of the cases in which the necessary observations were made. Convalescence, slow; loss of muscular power of lower limbs; impairment of vision; complete paralysis of the velum palati, frequently persisting for some time after restoration to health in other respects. In the only post-mortem examination which was made, (no record was kept, and the author was

not present,) the false membrane did not extend to the larynx. In this case there has not been the symptoms of suffocation.

2. *Causes: Drainage.*—In this respect there was a marked contrast between the village of Hertingfordbury and the other hamlets in which the disease prevailed; the former being dry, the latter damp and ill-drained, the cottages being situated on patches of common land, soaking with moisture. Offensive emanations were observed in none of the dwellings, which were all provided with detached cesspool privies.

*Water-supply.*—All the cottages are supplied with water from wells from twelve to thirty feet deep. Owing to the diminished rain-fall during the autumn, these were dried up, or very low. A family, in which five children were attacked and four died, being supplied from a well in this condition, the water was examined. It was found to contain living crustacea, protozoa and protophyta, and vegetable organic debris in suspension, with organic impurity in the proportion of 5.2 grains in the gallon. As none of these conditions were either peculiar to the localities affected, or common to all of them, the author did not think that they could be considered of material importance, as determining the causes of the outbreak; and as regards the whole district, he maintained that it might be favorably compared with most rural neighborhoods.

*Scarlatina and other diseases.*—Several children were attacked during convalescence from measles and hooping-cough. Scarlatina occurred, but did not prevail during the epidemic. In one fatal case of diphtheria, an eruption resembling that of scarlatina appeared on the third day. No instances were met with in which children affected with diphtheria had previously had scarlatina. This the author attributed to the fact, that the latter diseases had not prevailed in the district for some time past.

That the disease was capable of *transmission by personal communication* appeared from the mode of progress of the epidemic. When one case appeared in a family, all the children were usually attacked, and there was no instance in which the disease invaded one family in a hamlet without extending to others. The origin of the epidemic could not be traced to this cause; but in the neighboring parish of Tewin, four miles and a half distant, the only two individuals attacked were in frequent communication with Hertingfordbury.

Two other papers

## ON DIPHTHERIA,

by Dr. J. Jackson, of Her Majesty's Indian Service, (communicated by Dr. Murchison,) and Dr. A. Eugene Mackay, of Her Majesty's ship *Royal Albert*, (communicated by Dr. M'William,) were read by Dr. M'William.

Dr Jackson opened his communication by stating, that in the year 1833, a lady and her two children arrived at Calcutta from the upper provinces. These children were suddenly at-

tacked with disease in the throat, said to be of the nature of putrid sore-throat, and although the affection apparently was not particularly severe, they all sank under it with strange rapidity, and unexpectedly. They were supposed to have died from sore-throat, free from any great uneasiness in the throat, or difficulty of respiration or swallowing until the last. The first case that came under the author's immediate observation occurred some years afterwards in a child living in the suburbs of Calcutta. The child's breathing, and the stridulous cough, at once indicated a disease of a croupy nature. The disease had existed for three days. On closer examination, the throat, soft palate, the uvula, and tonsils, were covered with a firm exudation of plastic lymph, of the thickness and color of kid leather. An emetic produced slight relief, but had no effect in separating or removing the membrane. The child became speedily worse, and died after four hours from the time Dr. Jackson was first called in. In the above instance, the disease was very different from the ordinary form of croup. The exudation of lymph on the tonsils, soft palate, and uvula, most probably passing down the air-passages, marked it as an affection of a peculiar and uncommon character. The author had seen much of croup amongst the natives and Europeans, and at once pronounced the case to be of an unusual nature. Two other cases occurred in a short time afterwards, and they both proved fatal. The occurrence of a number of cases, many of which terminated in death, at the Maritime School, under the care of Dr. Webb, led to an inquiry into the nature and causes of the disorder. Thirteen of the school children were attacked by the disease, of whom five died. The post-mortem examinations revealed exudation of lymph covering the tonsils, and passing down the air-passages into the bronchial tubes, as far as their minute ramifications. The main cause of the disorder was considered to be, the existence of extensive sheepfolds to windward of the building, impregnating the atmosphere, and carrying the effluvia into the sleeping rooms of the children. The sheepfolds were, of course, removed, and the ground in front of them thoroughly cleansed. In none of the cases was there any rash upon the body, or any resemblance to scarlatina. Nor was there any proof of the disease being communicable from one person to another.

Dr. Mackay's paper recorded an interesting case of diphtheria which occurred in the harbor of Rio Janeiro, on board the flag-ship, *Cumberland*, in October, 1857. The patient, a naval cadet, aged thirteen, of delicate constitution, was placed upon the sick list on the 25th of October, for what appeared to be simple "cynanche tonsillaris." The fauces were injected, the tonsils were enlarged and there was considerable febrile action. The weather at this time was fine, the thermometer usually above 82°. There was a tendency to slight sore-throat amongst the

ship's company generally, but the cases were mostly of a trivial character. Diarrhoea, of a mild nature, was also so prevalent as to be considered epidemic. On the 28th, the patient had so much improved under the ordinary treatment of common sore-throat that Dr. Mackay intended reporting him for duty on the following day. During the night, however, he was kept awake by a constant necessity to eject what he thought to be saliva continually collecting in the throat. The ship having, on the previous day, proceeded to sea, the temperature fell seven or eight degrees, and the atmosphere was much more grateful than in harbor. On the 29th, there was an aggravation of all the symptoms; and, on examination of the throat, the uvula was found covered with a yellowish exudation, which was at once recognized to be of a diphtheric character. Every effort to remove the plastic lymph was ineffectual. The fauces were scrubbed with strong solution of the nitrate of silver, a linctus of hydrochloric acid and a syrup was used; blisters and poultices were applied to the throat; the vapor of hot water and camphor was continually inhaled; and chlorate of potash was freely exhibited in his drinks. Wine was also given to raise the flagging powers. The exudation continued to extend, and although large masses of the membrane were from time to time brought up, they were speedily replaced by fresh depositions. Stethoscopic examination indicated that the chest and bronchial tubes were unaffected. On the evening of the 30th, all the symptoms increased, when an emetic was tried; and it had the effect of bringing away a considerable quantity of mucus and membrane. Only temporary relief was thus obtained; for the pulse shortly became feeble, the countenance was livid, and delirium set in. As a last resource, tracheotomy was now performed, with the effect of raising the pulse, and affording so much ease that the patient fell off into a quiet sleep, which lasted two hours. The tube was kept clean by a quill feather, and by suction with the mouth performed by Dr. Mackay and Mr. Molloy, one of his assistants. Early on the morning of the 31st the patient again became restless, mucus began to collect rapidly in the bronchial tubes, and he sank at three o'clock. Dr. Mackay, at the time of the officer's illness, was complaining of sore-throat. Six days after cleaning the tube in the patient's windpipe by suction he had symptoms of diphtheria, with considerable exudation of lymph and high fever. He recovered under the free application of the nitrate of silver, the use of hot baths, and the administration of diaphoretics. Mr. Molloy, who was in excellent health when he put his lips to the tracheotomy tube, suffered no inconvenience from this procedure.

Dr. Greenhow, with reference to Dr. Sander-son's statement that no instances had been met with in which children affected with diphtheria had previously had scarlatina, observed that he had lately seen in a country village a family which

had recently suffered from diphtheria, all the members of which had scarlatina in 1851.

Dr. Semple said that from the papers read that evening, one could arrive at a correct idea of what diphtheria really was. The pathological appearances seemed to be, essentially, the formation of a false membrane extending over the pharynx, the nasal passage, and the bronchial tubes, thus causing death. This membrane was not a mere fibrinous exudation like that of pleurisy, but an exudation of separate laminae, like the leaves of a book,—a plastic coagulation with epithelial scales, of a mucous rather than of a serous character. The cases recorded as having occurred in India and at Rio Janeiro were, like those of Dr. Sanderson, true diphtheria. With regard to treatment, he was not aware that much success had attended tracheotomy; a case, however, had been recorded by Dr. Gueneau de Mussy, in which recovery took place after, and most probably in consequence of, that operation. When the exudation was hard, it might be removed; but it was often friable, and could not be taken away. Aretæus had recommended sulphate of copper, in the Egyptian form of the disease, as an emetic; and so had Bretonneau. The same system was largely had recourse to in the present day.

Dr. Murchison observed, with reference to the coexistence of scarlatina with diphtheria, that he had collected a series of cases to show the concurrence of many of the exanthemata, proving the views of Hunter on this point to be erroneous.

Dr. Camps considered, as respected the cause of diphtheria, it was important to bear in mind that the lower animals had suffered from a similar affection. At Boulogne, it was alleged that the disease in man was first caused by eating the flesh of a pig which had had the throat disorder, and it had also been stated that the pig had fed upon the flesh of a glandered horse. Dr. Sanderson had ably treated his subject.

Mr. Burge was of opinion that meteorological influences played a main part in the causation of the disease. It was quite true that we could not control meteorological phenomena, but we had some control over many local agencies which afford a pabula for the spread of diseases.

After a few observations from Mr. Hunt with reference to the operation of tracheotomy in this disease,

Dr. Sanderson replied to the various speakers, and in the course of his observations, remarked that he thought Dr. Semple wrong in saying that diphtheria proves fatal from the membranous exudation passing downwards. In the trachea the deposition was fibrinous, and in the velum palati it consisted of exudation-cells. He by no means intended to prove the identity of diphtheria with scarlatina, but he was of opinion that diphtheria might follow scarlatina,

## HARVEIAN SOCIETY.

DR. E. HART VINEN, President.

Dr. Camps mentioned a case of

### TOTAL BLINDNESS,

in a girl aged fifteen, who had become so from an attack of fever five years since. The blindness was amaurotic. It had been hoped that when the menses were thoroughly established she would have recovered her sight; in this her friends were disappointed, as the catamenia were now perfect, but the blindness continued. Dr. Camps did not attend the girl, and therefore could not say whether the fever was typhoid or typhus. He understood that there had been some amount of delirium, but not very marked.

The President mentioned a case of total blindness in a young lady who, while travelling in India, had a slight attack of rubeola. In her case it was also amaurotic.

Mr. Harry W. Lobb read a paper on

### THE TREATMENT OF PARALYSIS BY THE COMBINED AID OF THE CONTINUOUS GALVANIC CURRENT AND LOCALIZED GALVANISM.

In the spring of last year he had read a paper upon galvanism, in which he had described the apparatus best adapted for the production of the currents useful as therapeutic agents, as also their physiological and therapeutical effects. This paper has since been embodied in a pamphlet; he proposed, therefore, that evening, to consider the treatment of paralysis, without going over any of the old ground.

He divided paralysis, primarily, into central and peripheric. In the former, the disease is seated in the brain or spinal cord; in the latter, in the muscles themselves, or the nerves supplying them. Localized galvanism affords us a most admirable diagnostic of paralysis of the cord, upon its application to the affected muscles; if they readily contract, we know that the cord is healthy; whereas, if they do not contract, the cord or muscles themselves are faulty. In rheumatic paralysis, the muscles contract, causing severe pain; whereas, in disease of the brain there is no pain upon contraction.

The author then proceeded to recount a case of rheumatic paralysis of the deltoid, of three months' duration, relieved the first day, and cured the second. He stated that this was a common affection in both sexes after the fiftieth year, and that it easily succumbed to the combined aid of the continuous and interrupted galvanic currents. This affection was the result of cold or damp affecting, primarily, the cutaneous nerves; these by flexion give rise to a secondary injury to the motor nerves, probably setting up an inflammatory condition, which, upon subsidence, leaves an inability to move without pain. Friedberg, quoted by Ziemssen, has demonstrated in these affections the atrophy of the arteries supplying the part. The author then pro-

ceeded to explain the method of treatment, consisting of local Faradization, together with the aid of the continuous current, the patient wearing a Pulvermacher chain.

The next form of paralysis was from disease and destruction of muscular fibre, without central disease.

Lieutenant C——, wounded before Delhi, June 1857, by a shell, followed by fever and erysipelas. He was totally incapacitated from using the left arm, and had obtained three years' leave on full-pay, with a certificate from the Medical Examining Board, doubting his ever regaining a useful arm. He stated that he was afraid to use the arm, lest he might drop anything, as he had no confidence in it; that he was unable to ride on horseback, as he had no control over the animal. Looking upon this case as one of paralysis from disuse, not from disease, Mr. Lobb promised him the perfect use of his arm in three weeks. A Pulvermacher chain of forty elements was applied from the insertion of the deltoid to the outer condyle of the humerus, the seat of the wound. Direct current, to promote circulation, and the interrupted current of the primary wire, were applied daily for half an hour, exciting the debilitated muscles to contraction. After the third day he was enabled to make every normal movement of the arm, although weakly, and at the end of a week he could raise a chair, and hold it out at arms length, and supine the arm although it was attempted to prevent it. This was a most satisfactory case, and astonished the operator, from the rapidity of cure, almost as much as the patient.

Mr. Lobb then related a case of infantile paralysis from teething, under one year of age, which had been under treatment for ten weeks with the most marked success; but as the case was not complete, it is omitted here.

The fourth case was that of a young lady, partially hemiplegic for seven years, who had undergone various forms of treatment without success; amongst others, she had been operated upon at the Orthopædic Hospital without benefit. The lower arm was completely paralyzed, with contraction of the flexor muscles of the thumb and fingers. Electro-muscular contractility was speedily set up in all the affected muscles, but voluntary motion was tardy and very gradual; it commenced with the fingers, then the thumb, and supination was last; she had voluntary power in all the paralyzed muscles in the course of six weeks, but contraction is slow, and evidently the result of great and fatiguing efforts of the will. The muscles are now large and healthy, and with continued voluntary efforts will all return to their allegiance to the brain.

Mr. Lobb proposed upon some future occasion to relate to the Society the results of his success in the treatment of neuralgiæ with the continuous galvanic current.

Mr. Thomas Ballard read a paper on  
LIGHT THE ONLY CAUSE OF PURULENT OPHTHALMIA OF  
INFANTS.

After some observations on the frequency of the disease, especially amongst the poorer classes, and the various degrees of injury to the eyes that resulted from it, the author stated his conviction that the sole cause of the affection was, the exposure of the infant to the bright light during the day. He called attention to the circumstance of the distress which even adults suffer when their eyes are exposed to a bright light while asleep and on awaking, and to the common practice of obscuring the light from sleeping-rooms. New-born infants, however, whose eyes have but just known their natural stimulus, have to sleep and awaken from their slumbers frequently during the day whilst exposed to a strong glare of light. This is especially the case among the poorer classes for two principal reasons: 1st, because they live in small rooms, and the bed is consequently near to the window, and it is inconvenient to keep the room darkened; 2nd, because many are confined in the lying-in wards of public institutions, where it is usual to have whitewashed walls and large lofty windows, without blinds. Cases of ophthalmia occur also amongst the higher classes when the furniture of the room happens to be particularly favorable for the reflection of light, or when the bed is placed directly opposite the window, or, indeed, under any other circumstances which permit of the infant being exposed continually to the daylight. The generally received doctrine, that the disease results from contact with vaginal discharges, was disputed—1st, because the disease does not appear until several days after birth; 2nd, the author had notes of several cases of extreme leucorrhœa during pregnancy where the infants had not been affected, the light having been obscured from the lying-in chambers by a green blind; and, 3rd, notes of other cases where there was no leucorrhœa, and yet the infants suffered with ophthalmia, there being no green blinds to the windows. The proofs offered in favor of the opinion of light causing the disease were—1st, that the occurrence of it could be prognosticated when the circumstances were favorable for the free exposure of the infant to the light; 2nd, that no case had occurred where these conditions were prevented; 3rd, that all cases, including some of the most severe, had been cured by obscuration only, no lotion or application of any kind being employed. The author urged that in all lying-in chambers a green blind should be used, and that it would be a great boon to the poorer classes if in all public lying-in wards the upper half at least of the beds were shaded by a green blind; and that when cases of purulent ophthalmia were to be treated, caustics and astringent lotions should be dispensed with, together with the forcible opening of the eyelids, which must be so painful to the infant, and always causes distress

in the mind of the parent. The worst cases would recover in a week if only a green blind were placed before the window of the room in which the infant passes the day.

# WESTERN MEDICAL AND SURGICAL SOCIETY.

Mr. Pollock read a paper on

## THE IMPORTANCE OF PAIN AS A SYMPTOM OF DISEASE.

The author commenced by observing that the question was one of much practical interest; and, without taking into consideration the relation of pain to altered conditions of the nervous system, he wished to examine how far pain, continued or intermittent, might be considered to indicate some important alteration of structure, dependent either on malignant growth, tubercular deposit, or other diseased action.

A man complained of severe pain in the abdomen for some months, which was treated as neuralgia; he was then seized with paraplegia; a tumor was now observed attached to his eighth rib, evidently of cancerous origin. The pain had entirely ceased, but the lower extremities had become œdematous. He died shortly afterwards, the disease of the spine being a malignant growth affecting the bones.

A woman complained of excruciating pain, coming on suddenly about six months previous to her death. The pain complained of was chiefly referred to the left groin. No disease could be detected within the pelvis to account for its occurrence. The posterior wall of the uterus was slightly enlarged, but not sufficient to excite any suspicion that the pain was dependent on this slight enlargement. The pain continued without remission until her death. On examination, a small encephaloid tubercle, about the size of a small walnut, was found in the posterior wall of the uterus, softened, and communicating by minute openings with the cavity of the uterus and with the cavity of the peritoneum. No other viscera were affected.

These two cases present remarkable instances of excessive pain continued over a long period before the development of its cause was sufficient to be externally detected. Pain may be the tell-tale of disease other than malignant, but equally serious in its results. The presence of tubercle is seldom manifested by pain, but occasionally pain is the forerunner of tubercle to a very marked extent. The author mentioned some cases illustrating this point in a striking manner, in all of which pain existed long previous to any actual disease being detected, but in all of which tubercular deposits were found after death. The author, lastly, drew attention to various forms of pain, often included in the term "tic douloureux." One of these conditions frequently depended on a diseased condition of the arteries, and might be severe for some months previous to death, without other

evidence of altered structure. He had frequently witnessed this in connection with diseased bone of the face or decayed teeth, and he cited several interesting cases to illustrate the importance of attention to such complications when long-continued remitting pain affected any portion of the face or head. Pain should always be looked upon as an important and suspicious symptom when occurring without any assignable cause, and when continuing without early evidence of disease; when its locality is not very defined, and when its removal is not affected by medical aid; when the local examination of the part in pain does not appear to add to its severity, and when the general constitutional condition is not at first affected. In all cases, and in every condition, pain is an evil to which the patient submits with difficulty, and which therefore requires our utmost endeavors to mitigate or remove.

Dr. Anstie exhibited a specimen of

## MEDULLARY SARCOMA ABOUT THE KNEE-JOINT,

for which Mr. Holt had performed amputation of the limb. The growth seemed connected with the periosteum, and nowhere invaded the bone; the patella was pushed forwards and towards the right side, and a process of the tumor extended behind it into the joint, pushing the synovial membrane before it. The tumor did not extend into the posterior aspect of the limb at all. The patient died from the effects of pleurisy some days after the operation, and masses of deposit similar to that seen in the tumor were found in the pleura.

Dr. Anstie also showed a specimen of

## ANEURISM OF THE AORTA,

occurring in two places close to its origin. It took place in a patient for whom Mr. Holt had tied the subclavian artery twelve months previously for axillary aneurism. The patient bled from dyspnoea, dependent upon excessively congested lungs.

# MEDICAL SOCIETY OF LONDON.

Mr. HILTON, F.R.S., President.

Dr. J. Webster, F.R.S., read a paper entitled—

## THE INFLUENCE OF WEATHER ON DISEASE AND ON THE HUMAN FRAME.

After adverting to Hippocrates and Sydenham, who had both paid much attention to the questions now brought under discussion, the author observed that he thought that the effects produced by meteorological phenomena upon disease have not always attracted that notice from modern medical writers which such really interesting subjects deserved; therefore he was induced to lay before the Society his present communication. Indubitably, weather, or its changes, frequently formed the topic of conversation in England; and the author alluded,

amongst other popular notions, to that of an east wind producing ague; and to the injurious action of a low temperature, especially if of long duration, upon bodily maladies; while it was equally well known that prolonged hot and dry weather will alike prove inimical to health. On the other hand, moderate changes in the condition of the atmosphere, if within restricted limits, frequently act beneficially. At least the author was of opinion that, whenever atmospheric alterations are not abrupt or extreme in degree, they prove less prejudicial than persistent tracks without variation. Several illustrations of the marked influence of long-continued weather of the same kind upon public health were then quoted. For example, very dry summers, if also hot, and followed by much rain, are usually succeeded by unhealthy autumns; while if copious rains have prevailed, causing rivers to overflow and inundate a country, should the next year prove remarkably hot and dry, severe epidemic maladies are likely to supervene. Allusion was then made to the summer of last year in England, which continued dry and very warm during many months, much sickness being afterwards observed, while deaths were numerous in autumn and early winter.

The beneficial effect which changes of weather often produce was next adverted to by Dr. Webster. Of this he briefly described a most remarkable illustration that occurred in Messina during 1854, when cholera raged amongst its population. After the weather had been intensely hot, dry, calm, and hazy for some time in that city, a severe thunder storm supervened, with heavy rains and lightning, which inundated the streets, and greatly disturbed the previous unhealthy, still condition of the atmosphere. Subsequently the mortality by cholera fell quickly from 1300 and 1400 deaths per diem to very few fatal cases, and about two weeks afterwards the malady ceased entirely. In connection with this violent epidemic at Messina, the author related a fact to show how very differently medical practitioners are treated in Sicily, compared with England, should they ever presume to disobey police injunctions. A physician, having informed the public authorities that he had treated cases of cholera, was ordered not to mention the case to any person. Nevertheless, this gentleman spoke to some professional friends on the subject; whereupon he was seized like a culprit by *gens d'armes*, and put in prison, without any trial, as a punishment for his talkativeness.

The effect of cold, northerly gales in producing inflammatory diseases of the chest was next noticed. Fevers of a low type seemed often much influenced in their course by southerly gales, especially when accompanied with moisture; whereas south-west winds usually mitigated the symptoms of phthisis, and even kept consumptive patients alive longer than under adverse circumstances.

The author then alluded to the marked influ-

ence of particular winds upon the mental and moral faculties of residents in different countries. Of these the "mistral," a north-west wind was first mentioned. This bitterly cold, drying blast, which frequently blows with much violence, acts very injuriously on plants and animals in the south of France. Again the *sirocco* wind, especially as it prevails in southern Italy, coming from the arid, burning plains of Africa, often seems to annihilate the mental and bodily energies of the inhabitants; while in Sicily it is said to be sometimes attended by putrid diseases, and to prove even mortal to its victims within a very short period. The *solano* wind of Madrid, which frequently occasions pulmonary affections in that capital, was likewise alluded to, and the popular saying of Spaniards in reference to its lethal effects upon the *Madrilenos* was quoted—viz., that "it will kill a man but not extinguish a candle." In that capital, Dr. Webster said, palsies and apoplexies likewise prevail with great frequency when the "gallego," or north wind, rushes down from the often snow-clad Guadarrama mountains. He also remarked, that the mental faculties of individuals resident in certain districts of the globe were often singularly affected when particular winds prevailed. Thus at Buenos Ayres, in South America, Sir Woodbine Parish states, while the "viento norte" blows from over the great Pampas plains towards that city, it frequently produces an irritability and temporary derangement of the moral faculties, almost approaching to insanity, especially amongst the lower orders, which lead to crime and even bloodshed. Indeed, it is reported, that advocates actually plead the prevalence of the "viento norte" as an extenuation of their clients' delinquencies. At Malaga, in Spain, a somewhat analogous effect follows when the "levante" wind prevails, and the judges are said to modify their sentence upon criminals in consequence.

Although moderate variations of temperature, and slight changes from dry to moist weather, are not prejudicial to health, rapid and considerable alternations of the barometer or thermometer act injuriously. Whenever the temperature between day and night time varies to a great extent, then sickness will most probably abound, and mortality be greater than under opposite atmospheric phenomena. This circumstance materially tends to produce the "pneumonia" of Madrid, where very hot days are often succeeded by cold nights; nay, even during day-time, the temperature felt on one side of a street will vary twenty degrees from that on the other, according as the burning sun acts thereon, or a cold, dusty and dry wind blows from the adjacent mountains. Besides these causes, Dr. Webster observed, barometric pressure exerts considerable influence upon the human frame in reference to disease. Regarding this point, he stated, when the column of mercury ranges high, so will maladies likely assume an



inflammatory or sthenic diathesis: while, should an opposite condition of the barometer prevail, then sickness will more probably assume an asthenic character, particularly if south-westerly winds continue for any length of time, with a moist atmosphere. Under such circumstances, hæmoptysis, epistaxis, and hæmorrhages, from mucous surfaces, are also much oftener observed to occur than otherwise. In support of this opinion, allusion was specially made to frequent supervention of bleeding from the lungs, when travellers ascend very high mountains, and where water boils several degrees below the point it does at sea levels. Some pertinent remarks were afterwards made regarding the influence which habitually moist or dry climates appear to produce upon the physical constitution of residents. Upon this point Dr. Webster observed, that in countries whose climate is proverbially devoid of moisture, and also exposed to dry scorching winds, the natives are invariably thin, wiry, and of bony frames, being seldom or never corpulent; whereas those dwelling in climates of an entirely different character are endowed with more muscular frames, and frequently show an inclination to obesity. Of the former condition, Arabia furnishes an excellent illustration, seeing its natives are spare, wiry, and rarely exhibit any tendency to become fat; whilst in England and Holland, which have both moist climates, especially the kingdom last named, the inhabitants thereof are generally corpulent; indeed, to be "Dutch built," is a common proverb throughout Europe. Subsequently, various additional interesting topics were discussed in the author's communication, all bearing upon the main questions brought under notice, but to which space precludes any further reference at present, and therefore must be wholly omitted. Dr. Webster, however, finally observed, that by the public generally, and even occasionally by medical men, erroneous notions are often entertained respecting the unhealthiness or salubrity of particular countries; the opinions expressed thereon being often formed from physical sensations produced upon an individual's own bodily system, rather than through minute investigations and enlarged experience. An agreeable climate is not always the most salubrious, compared with places where atmospheric impressions seem of a contrary description. For instance, the fame of the south of France, or even Italy, both much lauded on account of their salutary climates, and sanative effects in alleviating disease, appears founded on exaggerated reports, which often prove erroneous. The air in these southern districts no doubt frequently feels delightful to strangers; nevertheless, maladies are generally as serious as elsewhere, seem often more rapid in progress, and become equally uncontrollable by treatment. Further, the average term of human life is there rarely so prolonged as in more northern and bleaker regions of the globe. Human development would also appear far

quicker in warm and dry countries, but it sooner decays; whilst longevity is oftener met with amongst inhabitants living in the former, than the latter district. If allowed to speak figuratively (Dr. Webster observed, when concluding his paper), throughout most southern places in Europe, animal life somewhat resembles a wax taper briskly burning in oxygen gas, which blazes up rapidly, gives at the same time much light, produces a great flame, but sooner burns away and gets quickly extinguished; whereas, under different external circumstances, the phenomena consequent upon atmospherical influences frequently assume an entirely opposite aspect, and hence prove much less prejudicial to human existence.

Dr. Routh read a paper on

#### DEFECTIVE ASSIMILATION IN INFANTS—ITS PREVENTION AND TREATMENT.

The object of this paper was to show that most of the mortality of infants was due to defective assimilation. Defective assimilation was almost always the result of want of breast milk and the use of judicious food; the disease was most effectively prevented by supplying this milk. Dr. Routh then detailed the result of breast milk exclusively given, artificial food without breast milk and with it, or the development and mortality of children, from tables of Messrs. Merei and Whitehead; from which he showed that in proportion as breast milk predominated, in proportion was good development observed, and *vice versa*. He then shewed that the most frequent diseases amongst children were abdominal diseases, occurring in the proportion of 23·4 per cent.; development diseases in that of 8·8 per cent. of all cases; rachitic diseases constituting 3·2 per cent.; atrophy or marasmus, 5·2 per cent. He believed, however, that all these were produced by defective assimilation, the former in most cases being sequelæ of it; atrophy or marasmus being only the more marked and characteristic stage.

Dr. Routh then described the disease as consisting of three stages: first or premonitory, in which peevishness, some loss of flesh, occasional attacks of indigestion, acid eructations, &c. were most prevalent; in the second stage, *emaciation* was more marked, eyes became unusually bright, much loss of digestive powers, sometimes with diarrhoea and lientery; third or exhaustive stage, generally attended with diarrhoea, aphthæ, frightful emaciation, complete loss of digestion, &c. Sometimes the diseases from the second stage passed on to tuberculosis, rachitism, and most developmental disorders, and not to the third stage.

*Causes.*—The predisposing causes were—hereditary, tubercular habit, and exanthemata; exciting causes—bad air, want of cleanliness, injudicious food, and especially an atmosphere contaminated by too many children being congregated together.

*Post-mortem appearances*—Three kinds: emaciation very great, loss of adipose, cellular, and muscular tissue, in all varieties; but in one, where diarrhœa has been present, red patches, or aphthæ over the alimentary mucous membrane, these aphthæ often containing the *oidium albicans*. In other cases, also with diarrhœa, the mucous membrane exuding a reddish-colored mucus, intensely acid. In others, without diarrhœa or with it, Peyer's glands projecting, and enlarged in patches, as in Asiatic cholera. In all, undigested matter in canal, with very fœtid fecal matters.

The disease seems to be gradual, passing on to entire loss of *primary* assimilation; the secondary still persisting, although inactive from want of assimilable matters to take up. Albuminous, starchy, and oily matters were not digested.

The *treatment* consists in supplying fatty acids and already artificially digested animal and occasionally vegetable substances, especially human milk. If this could not be sucked, it should be collected in a cup and given by the spoon. Dr. Routh strongly animadverted here upon the absurd dogma, that it is wrong to mix human and cow's milk. He, on the contrary, believed the plan not only safe, but the very best practice in many cases, and the only means of saving an infant's life. Simple juice of meat, and this with vegeto-animal food, he found most useful in fulfilling these indications. The remedies were of two kinds: 1st, Those calculated to increase cell growth and development. Phosphate of soda, producing an emulsion with fats, thus allowing of their assimilation; chloride of potassium, to dissolve carbonate of lime; phosphate of lime, to enable blood to take up more carbonic acid, and thus hold in solution more carbonate of lime; (these substances severally strengthening muscular and bony structure;) lime-water, to provide lime to blood. 2nd. These last also acted as some of the remedies calculated to allay local irritation of the alimentary canal. Carminatives were useful, such as dill, but especially cinnamon-powder, to correct flatus and to check diarrhœa. Anodynes were also (however objected to generally) strongly recommended by the author. For the diarrhœa, when present, nitrate of silver and sulphate of copper were the best remedies. Wine was also found very serviceable, even if given in large quantities. These remedies, however, it must be confessed, proved in most cases of no avail in the third stage, which was, he might say, almost incurable; but they acted very effectively in the second and first stages.

#### SYPHILITIC INOCULATION.

Mr. Henry Lee read a paper on the above subject, and reviewed the progress that had within the last few years been made in relation thereto. For many years the inoculability of an ulcer with the lancet upon the patient himself was considered as a proof of its syphilitic nature,

and by many it was regarded as a test of the propriety of giving mercury. In 1856 Mr. Lee had shown that sores affected with the specific adhesive inflammation were not inoculable, as a rule, with the point of the lancet; and as these were the only sores which were ordinarily followed by secondary symptoms, the inoculability of their secretions was a reason against the administration of mercury, and not for it. Since the fact pointed out by him (Mr. Lee) in 1856, that indurated sores were not inoculable, as a rule, with the point of the lancet, a complete revolution of opinion had taken place, and some French authors were now contending that such sores were not inoculable at all. This was, in his opinion, to generalize too hastily. He showed that, although indurated sores could not be inoculated when in a quiescent state, yet that upon being subject to certain forms of irritation they become inoculable with the lancet upon the patients themselves. The result of the inoculations (illustrated by cases and drawings from patients under Mr. Lee's own care) was not the "characteristic pustule" in which all primary syphilitic sores had so long been said to originate, but some form of adhesive inflammation.

Mr. Lee concluded, from the cases and observations laid before the Society, that the indurated form of chancre presented physical characters peculiar to itself, and differing from those of every other form of syphilitic disease; that even when made to suppurate artificially, the result obtained by inoculation was not similar to that produced by the pustular variety of inoculation; and that, therefore, those who had described (as was very common three or four years ago) the conversion of the results of an ordinary pustular inoculation into an indurated chancre, had in reality never witnessed what they professed to teach.

### A Mirror OF THE PRACTICE OF MEDICINE AND SURGERY IN THE HOSPITALS OF LONDON.

Nulla est alia pro certo noscendi via, nisi quam plurimas et morborum et dissectionum historias, tam aliorum proprias, collectas habere et inter se comparare.—MORGAGNI. De Sed. et Caus. Morb., lib. 14. Proœmium.

#### WESTMINSTER HOSPITAL.

*Large Aneurism of the Arch of the Aorta;  
Death from Syncope.*

(Under the care of Dr. RADCLIFFE.)

THE history of the following case points to a rupture of the arch of the aorta, most probably through an atheromatous ulceration, giving rise to an aneurism, which at first pressed upon the right bronchus. Its increase gave rise to the symptoms of pressure upon the trachea and œsophagus; it appeared above the sternum, and en-

larged until it had attained the size of an infant's head. Finally the cuticle about the centre of the tumor became very thin, of a red color, and for some days before death, seemed on the eve of bursting. The patient's sufferings were intense from the constant dyspnœa, which amounted to a feeling of suffocation on the morning of the day on which he died. It, however, ceased at night, and for the first time since his stay in the hospital he lay down to sleep, but a few minutes only had elapsed when he was found dead from syncope. In such a case as this the most usual termination is from rupture of the aneurism, and it was actually looked for from day to day. For the following notes we are indebted to Mr. Arthur Charles Judges, clinical assistant to the hospital:—

Robert H.—, aged forty-six, cooper, was admitted into Burdett ward on January 4th, 1859, when he gave the following history of himself:—About two months since, whilst engaged at his usual work, he felt the right side of his neck and chest as if it were fixed, as if it were tied down with a cord; also a pain in the right half of the forehead, eyeball, and below the malar bone. Coincident with this there was great pain in the head generally, with giddiness and faintness—in fact, the hammer fell out of his hand, and he himself would have fallen had he not been supported by one of the men working with him. He felt, and continues frequently to feel a sensation of contraction in the right side of the thorax, extending to the vertex of the head, causing him to gasp for breath. When the above-mentioned pain came on, he was straining himself by driving some iron hoops on to a butt, using a large heavy hammer.

On admission, he complained of the pains above alluded to; dyspnœa; cough, with slight expectoration of small pellets of tough, stringy mucus, colorless, save from the floating carbon of the atmosphere. On percussion, both sides of the chest were resonant, the right rather more so than the left. On the upper part of the right side anteriorly, the respiratory murmur was not quite so loud as natural, and the expiratory murmur was slightly rough; posteriorly the sounds were natural. Heart's sounds healthy; pulse 80, regular, and of good strength; tongue pale, white, and moist; bowels confined; appetite good. He was thereupon temporarily ordered a slightly laxative alterative mixture, and to have middle diet.

Jan. 10th.—There is some difficulty of deglutition, with increase of the dyspnœa, especially when in a recumbent position; indeed, so much so that he cannot lie on his back or right side, sleeping only on the left side. On taking a deep inspiration, pain is felt under each clavicle. Pulse now about 100; the same at either radial; both small and thrilling under the fingers. At the right sterno-clavicular articulation, and bulging above it, there is a small tumor perceptible, pulsating, and thrilling under the fingers. Both sounds of the heart heard

distinctly here, as well as all along the course of the aorta, increasing until they reach the right sterno-clavicular articulation. On the opposite side the sounds are much less distinct. The pain on swallowing is felt exactly opposite the cricoid cartilage, and shortly afterwards in the epigastrium.

By the beginning of February the aneurismal tumor had rapidly increased in size, and pulsation was very visible to the eye. The breathing is generally rough, and on the right side there is a strong, harsh, blowing inspiratory murmur.

Feb. 11th.—The tumor is much larger; breathing much harsher and more difficult. There is a slight difference between the pulses at the two wrists, the right one being rather stronger.

By the middle of the month, the tumor was slowly increasing in size; the dyspnœa greater; cough very troublesome, with the same scanty sputa; the right pulse decidedly more full and strong than the left. The expectoration has contained a streak of blood, but that only after using the greatest violence to excrete it.

Shortly after that, there seemed a diminution in the differences of the pulses, the numbers being just the same at either wrist, and of much the same power. The increasing difficulty in breathing, and the constant irritative cough, and almost total absence of sleep, necessitated the exhibition of an opiate every night, repeated at discretion, according to the urgency of the symptoms. His diet was also altered to beef-tea, and extras of a less solid character than meat; and in addition, four ounces of wine daily.

In the early part of March, there was a slower increase in the size of the aneurism, but the dyspnœa increased, and with it the want of sleep at night. Small doses of morphia were given occasionally, and the bowels kept open by castor oil.

By the middle of the month, the tumor had greatly increased in size, and extended up the neck, apparently in the course of the sheaths of the carotids.

No material alteration (except a steady increase in the size) was observable until about the 1st of April, when a sudden increase in the size of the tumor took place, after having suffered a night of great agony from the exhaustion consequent upon the laborious breathing. The lower part has a red, turgid appearance, tender on pressure, with a shiny surface, as though nothing remained but the cuticle to burst, and that possessing a semi-decomposed look.

On the 3d of April, Mr. Judges was called to him early in the morning, the nurse stating he was dying. He found him gasping for breath, his eyes forcibly protruding from their sockets, and he himself wildly tearing at the tumor, in the hopes of either bursting it to relieve his pain, or taking pressure off his windpipe, as he expressed himself. This great distress, however, seemed to have resulted from a morsel of

food hastily swallowed. Some ice was ordered him, which through the day gave him marvelous relief, and which it continued to do until his death. A day or two previously, he had the addition of a few drops of digitalis to his opiate, the heart's action being very powerful and excited; but he imagined it distressed his cough more, and prevented the excretion of the sputa, and so he was humored with the belief of its omission.

By the 9th of April, there was an appearance of the tumor pointing upwards, where at one spot the pulsation was much more distinct, and the tumor soft and yielding.

The increase in the size, and the concomitant difficulty of swallowing, continued to the 20th of April, when the dyspnoea seemed to have reached its maximum, the poor sufferer begging to be released from his pain and anguish. In the afternoon of this day he seemed almost suffocated, the feeling of pain and difficulty being ascribed to the epigastrium and umbilical regions; the face was turgid. The administration of castor oil, which speedily operated, and the application of a warm poultice to the abdomen, gave him temporary ease. In the evening, after a violent gasp for breath, he was enabled to lie almost in a flat posture. His wife (who had been with him many nights, expecting his end) was reclining and half supporting him, when he told her he should go to sleep, as he felt so much easier, and he wished her to do the same. In ten minutes' time she turned to him, thinking he was asleep, when, to her great surprise, she found him dead. He had died without a struggle, gasp, or groan, apparently quite exhausted by his prolonged sufferings. Throughout the whole of his stay in the hospital he was indulged with any little extras he might fancy.

*Examination twenty-four hours after death.*—The body was fairly covered with muscle; the abdominal viscera were healthy, the lungs gorged with blood, but quite crepitant, and floating in water. There was no mark of any great pressure, but of a general, continued, and diffused kind upon the trachea and larynx. The heart was rather small, fat, and flabby; the valves were healthy. On tracing the aorta upwards, the pouch of the aneurism in the arch was reached, just by the spot where the innominate artery is given off, but not involving that vessel, towards the front and right side of which it lay. The sac was filled with coagulum, and would contain about a pint of fluid; the aperture of entrance to it was about  $\frac{3}{4}$  of an inch in diameter, just admitting the introduction of the little finger. From the manner of death, without rupture, of course the sac remained intact.

## HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON.

### *Four cases of Thoracic Aneurism, two proving fatal.*

(Under the care of Dr. POLLOCK.)

Several cases of thoracic aneurism have recently occurred at this hospital, which present several points of interest, especially in contrast with each other, and with the one in the preceding report. The diagnosis has been pretty clear in each; two have proved fatal, and so been verified by the autopsy. Two are still under observation. A fifth case, of apparently the same affection, under Dr. Pollock's private care, is added, as illustrative of the diagnosis. The notes are condensed.

Case 1.—A. G—, aged fifty, a clerk, middle-sized, spare habit, not of robust build, presented himself early in November last. Early in summer he had cough and dyspnoea. In July he became much worse; the dyspnoea increased, with sense of tightness, thickening, pain, and weight in the chest. Fits of insensibility, lasting about half an hour, occurred soon after, accompanied by gasping of a most distressing kind. He had occasional complete aphonia; at other times his voice had a squeaky tone; there was no dysphagia; pain was felt at first at the sternum, lately between the shoulders, slight and dull. His cough was of a peculiar tone—a high note, as if sent through a tube.

*Physical Signs.*—Marked immobility of both sides of the chest, the left flatter; no external tumor; deficient respiration in a marked degree over the whole left side, but a low vesicular sound heard throughout. Slight dullness over the upper part of the sternum, and to the right side of that bone as low as the fourth rib; the sounds of the heart heard in this space louder than over the aortic valves, the second sound loudest; no murmur. Posteriorly: Bronchial respiration and bronchial voice over the whole superior scapular region of the right side, and the expiration prolonged and blowing. The sounds of the heart heard faintly in the same space; no murmur.

Other signs and symptoms of aneurism were carefully sought for, but the above summary contains all that were really present.

He died nine days afterwards, evidently from gradually increasing pressure on the trachea. He was insensible for the three preceding days, and remained in a sitting posture, leaning forwards. The respiration became equal on both sides the day before he died, which was rightly attributed to the pressure having become nearly equal on the two bronchi. His radial pulse failed thirty hours before the respiration.

An aneurism of the size of a small orange, springing from the first portion of the arch of the aorta, lay on the bifurcation of the trachea, greatly compressing the left bronchus, but pressing on the root of the right lung, and had nearly opened into the right bronchus.

Both pulmonary arteries were much compressed, but the right least; the œsophagus was free; the left lung collapsed, the right voluminous and emphysematous. The aorta was covered with atheromatous patches, and the valves were thickened.

Case 2.—W. M——, aged thirty-three, a carpenter, middle height and build; for twenty-two months had complained of "rheumatic pains" in the neck and shoulders. Dyspnoea for one year, exasperated by exertion. Occasional slight hæmoptysis. A thick, purulent expectoration; half a pint in the day. Some night-sweats. His brother died of phthisis. Slight œdema of feet. Urine not albuminous; scanty. The case, so far, looked like phthisis, but the physical signs caused Dr. Pollock to register the diagnosis as aneurism. There were also slight occasional aphonia and dysphagia.

*Physical Signs.*—Mobility much impaired on both sides. Dullness on percussion very marked on the right clavicle, and for a space under the clavicle about three inches in extent, encroaching on the sternum. Slight pulsation felt here, and the sounds of the heart heard. No murmur. Loud bronchial râles over both chests. Both radial pulses weak; the right less in volume.

He died six weeks afterwards, with extreme dyspnoea, in violent repeated fits.

A small aneurism was found pressing on the bifurcation of the trachea, adherent to the apex of the right pleura, and opposite the first and second right costal cartilages. Intense bronchitis over both lungs. The tubes were filled with muco-purulent fluid.\*

Case 3.—C. P——, aged fifty-six, a gardener, spare appearance, temperate habits, chest fairly formed. For two months has had constant dull pain at the top of the sternum, with gradually increasing dyspnoea, which obliges him to sit up at night. Slight cough lately; no expectoration. Never had rheumatism, dysphagia, nor aphonia. No inherited tendency to any chest affection. Anasarca of both legs and thighs for a fortnight past. Urine scanty; highly albuminous.

*Physical Signs.*—Visible pulsation of subclavians, carotids, and brachials. Slight projection of the upper part of the sternum, and slight dullness in this spot. A hoarse, double murmur over aortic and mitral valves, all the cardiac space, over the middle of the sternum, and from the right clavicle to the right nipple. The point of greatest intensity is about the middle of the sternum, and rather to the right of it: the diastolic sound loudest. Very harsh murmur above both clavicles, more intense on the right, where there is visible and tangible pulsation and "fremissement." The systolic sound is here in excess. There is slight fullness to the eye above the right clavicle. Radials equal in volume. Respiratory sounds pretty equal.

Slightly interrupted respiration on left subclavicular space. Very marked and rather fine crepitation and dullness at the left posterior base. Slight aërous senilis.

The diagnosis recorded is, disease of the aortic and mitral valves of the aorta itself, with aneurism of the arch, possibly engaging the arteria innominata.

Case 4.—A. T——, aged thirty-nine, low stature, large chest; a professional singer, with a good tenor voice, which he is now daily practising in public, and he says he never sang better than lately. His only complaint is that, for the last six years, he has felt tightness and pain across the lower part of the sternum, with slight dyspnoea; his distress being rather after than at the time of singing. He has no cough, and no other symptoms of any kind. One brother died of phthisis.

*Physical signs.*—A rough, double murmur is heard, most intense opposite the second and third right costo-sternal articulation, and audible to the level of the right nipple. A slight impulse is felt here. A double murmur, much less intense than in the above space, is also heard over the aortic and mitral valves; a systolic murmur (loud) above the right clavicle; a double murmur (faint) over the left clavicle. Percussion dull over the lower part of the sternum(?). Sounds of the heart not heard posteriorly. Respiratory sounds equal on both sides.

Case 5.—R. V——, aged thirty-seven, large chest, appearance of robust health, sanguineous temperament; accustomed to hunt and take active exercise. A sister died suddenly of heart disease. In 1853, he had a profuse hæmoptysis; and again in 1855; soon after which he was carefully examined by Dr. Pollock, in consultation, who could not detect any organic lesion in the heart, bloodvessels or lungs. He fully recovered health, and presented himself, in 1857, complaining only of slight sense of fulness in the præcordial region, and feelings of tension in the head.

*Physical signs.*—Impulse and pulsation slight, but manifest to the eye and touch opposite the third right costo-sternal articulation, where there is also a rough systolic murmur, also heard over the right side of the sternum; slight occasional systolic murmur over the right clavicle.

In 1858, the above signs were persistent, and heard over a greater extent, extending to the level of the right nipple. Has taken digitalis, and been occasionally leeches over the sternum, with relief to the sensation of tightness. He is sometimes unable to lie on the left side, and once lately had, for a few days, most distressing feelings of "stretching" and pain across the chest. He has the hæmorrhagic temperament in a marked degree. Leechbites are always most difficult to stop; and he was once much exhausted from this cause. A high authority on aneurism saw the patient with Dr. Pollock, and

\* The specimens were recently exhibited at the Pathological Society.

mentioned a case in which he had observed exactly the same physical signs persistent for seventeen years, the subject remaining in perfect health.

A comparison of the above cases will be found of interest in estimating our means of diagnosing aneurism. In none of the five cases was there any external tumor; in two of them, there was no murmur in any part of the chest.

In Case 1, the diagnosis depended on the evidence of pressure on important organs; the deficiency of respiration over the left lung, indicating a nearly total obliteration of the left bronchus; and the peculiar character of the aphonia and cough, showing a narrowing of the calibre of the trachea, and probably pressure on the respiratory nerves, pneumogastric and recurrent. This pressure might have been caused by a tumor in the same situation; there was nothing to make aneurism certain, but much to make it probable. To the latter class of evidence we refer the known frequency of aneurism lying on the bifurcation of the trachea, and the absence of the aspect of malignant disease. The indications of pressure on the upper part of the right lung (bronchial voice and bronchial respiration) were very interesting in this case.

In Case 2, the diagnosis depended on a limited, well-marked dullness of percussion in a suspicious situation, *encroaching on the sternum*—pulsation and the heart's sounds being also heard here. There was but faint evidence of pressure in the slight aphonia and dysphagia, but death occurred from apnoea. The complication with intense bronchitis (arising from pressure) masked the case.

In case 3, we have the more ordinary signs and symptoms of diseased lining membrane of the valves and aorta, in the *locale* of the distressing sensations, and in the situation and character of the murmurs. The character of the pulse and the visible action of the arteries indicate patent aortic valves. There is probably pressure on the great venous trunks, for anasarca has recently set in, and the urine is albuminous. The latter symptom, indicating congestion of the kidney, may stand in the relation of cause to the anasarca; but more probably both are due to venous congestion, from narrowing of the auriculo-ventricular openings, hypertrophy of the heart, and probably the mechanical pressure of an aneurismal tumor. The crepitation and dullness at the base of the left lung, there being no symptoms of a recent acute inflammation nor of chronic tubercular deposit, may, with most probability of accuracy, be referred to oedema from congestion, or, at least, to a pathological condition of a passive rather than of an active nature.

Case 4 characterized by murmur and slight impulse to the right of the sternum and above the clavicles, offers the ordinary characters of aneurismal signs. There is no evidence de-

rivable from pressure on internal parts. If there be pressure on the trachea, it is uniform, there being no difference in the respiratory sounds on either side. The symptoms are slight but characteristic. The large chest and daily occupation of the patient favor the diagnosis recorded. The long duration of the symptoms (six years) is remarkable. The position of the aneurism in the chest, the resistance of surrounding tissues, and the degree of disease in the artery itself, will infinitely modify the duration. On the whole, the longest-lived cases of aneurism are those which point externally, as the vital parts about the root of the lungs are thus freed from pressure.

The last case, being an instance of sounds referable only to disease of the aorta, persistent for years, and only slightly increasing, with nearly total absence of symptoms, and no evidence from pressure, must be regarded with caution. The history of the case, showing the hæmorrhagic diathesis (brittle vessels) in a marked degree, assists the diagnosis.

#### CHARING-CROSS HOSPITAL.

*Epilepsy and Amaurosis from a Tumor beneath the Occiput; removal of the growth with good results.*

(Under the care of Mr. HANCOCK.)

WE have watched with some anxiety a boy in this hospital, whose case is in many respects a very peculiar and unusual one. When first admitted, two things were noticed—a large tumor at the back of the neck, running up to the occipital bone, and lying in the hollow between the trapezius muscles; and complete amaurosis. These commenced contemporaneously two years ago, his health being perfect up to that time, if we except occasional headaches, the result of a fall on the head four years previously. As the growth of the tumor extended more deeply, it produced such an interference in the cerebral circulation as to bring on epilepsy six weeks before admission, the predisposition to which no doubt existed from the time of the injury. The convulsive attacks were so frequent and violent as to cause fears to be entertained for his life, and they were indicative of the extent of mischief produced by the tumor, which probably sprang from the theca vertebralis in the upper part of the neck. That this might be so, the result of the operation seemed to prove; for although all of the growth has not been removed, from the causes mentioned in the notes of the case, nevertheless the pressure has been relieved, the fits ceased for sixty-nine days, and the amaurosis is disappearing. When we last saw him, on the 4th instant, there was a little tenderness about the neck; otherwise with the exception of the two fits the night before, he was doing well. Cause and effects are well illustrated by this case, which besides affords an example of one of those rare instances in which epil-

epay has shown itself by influences in action external to the brain, yet sufficient to interfere with the balance of the circulation in that important organ; for we may remark that the boy had a decidedly congested appearance about the head before he was submitted to the operation.

R. D——, aged fifteen, with large head, sallow and yellowish skin, was admitted on Feb. 19th, 1859, with a large tumor on the back of his neck, commencing a little below the occipital protuberance, extending four inches and a half down the neck, and four inches across; the circumference of his neck, including the tumor, being twenty inches. He enjoyed good health until nine years of age, when he fell into a cellar in Covent-garden-market, falling heavily on his head; since then he has occasionally complained of pain in his head, but neither his general health nor his appetite was affected until two years ago, when he felt unwell. His neck commenced to swell, and his sight gradually failed, so much so that when admitted he required to be fed, and led to and from his bed. About six weeks before his admission, he was attacked with epilepsy, the fits becoming more frequent, so that when admitted into the hospital it was found there was scarcely half an hour's interval between the attacks.

When admitted, under the care of Mr. Hancock, his face was pallid; eyes, large, prominent, staring, and motionless, and the tumor was found to be deeply seated under the deep fascia of the neck. As the fits increased in violence and frequency, it became a question how far they were influenced by the tumor, or rather by the tension of the deep fascia of the neck caused by the tumor interfering with the circulation of the brain. The boy was sinking fast, and it was evident that if something were not done for him he would die. Mr. Hancock, therefore, proposed to the friends to remove as much of the tumor as he could, at the same time explaining the danger of the operation in his then condition, and the chances that he might sink under it. They, however, were so anxious that something should be done, that they begged him to try. Accordingly, on the 26th March, the patient was placed slightly under the influence of chloroform, and the greatest portion of the tumor removed. He, however, became so low from the loss of blood that it was deemed advisable to desist from further attempts.

June 4th.—The case has proceeded more favorably than could have been anticipated. He was of necessity kept on his left side as much as possible, and for some time there was considerable œdema of the left side of head and face; this, however, subsided. He had two fits on the night of the operation, but not any since until last night, when he had two slight attacks. His eyesight is slowly improving. The circumference of his neck is now fourteen inches over the cricoid cartilage, instead of twenty, as it was before the operation. He eats and sleeps well.

He understands and answers questions with great promptitude, and he is very cheerful and contented. The wound has almost healed.

#### MIDDLESEX HOSPITAL.

*Small Carcinomatous Tumor at the Margin of the Mammary Gland; removal by operation.*

(Under the care of Mr. SHAW.)

THE diagnosis of a chronic mammary tumor is ably assisted by remembering that it is mostly found in young women. It usually commences at the circumference of the breast, is quite movable under the skin, and no evidences are present of malignancy, either in the breast itself or in other parts of the body. In the majority of patients who are the subjects of this form of growth, the age is under thirty, although instances are met with in which it has been much more. Very lately a female, nearly forty years of age was admitted into the Middlesex Hospital, under Mr. Shaw's care, with a small tumor situated almost at the extreme lower margin of the right breast, a peculiarity, as Mr. Shaw remarked, by no means common in carcinoma of the gland, yet of frequent occurrence in the chronic mammary tumor. This tumor was about the size of a full-grown walnut, was not movable, and its growth had been of comparatively short duration. None of the axillary or other glands were affected, nor were the lymphatics infiltrated by the disease; but what particularly rendered the case capable of diagnosis was the state of the integuments immediately over the tumor. These were drawn in, puckered, and slightly discolored, which, together with occasional mild attacks of pain, pointed out the nature of the disease.

It is advisable, almost as a general rule, when a given portion of the breast is affected with cancer to remove the whole gland; but as the tumor in the present instance seemed to be so much isolated, Mr. Shaw resolved to excise only that part of the breast containing the disease. This was performed on the 25th ult., when the patient was under the influence of chloroform, the affected portion of skin being included in the removal of the tumor. On making a section of it afterwards, well-pronounced carcinoma, in its earliest stage, was presented to view, imbedded in much adipose tissue.

The patient is a well-developed woman, with a redundancy of the fatty element, and possessing prominent and large mammæ. Since the operation we learn she is doing very well.

We have seen many instances in which a portion only of a carcinomatous breast has been excised when the disease was limited; in some the return has been early, whilst in others, again, the patients have enjoyed comparative immunity for two or three years. Some surgeons, however, maintain that the entire gland should be taken away, if but a small portion only is affected, giving as a reason that the neighbor-



ing lobules must be contaminated with the elements of the disease.

At St. Mary's Hospital, on the same day as Mr. Shaw's operation (May 25th), Mr. Lane removed a cancerous tumor the size of a pigeon's egg, which was situated in the right breast, to the left of the nipple, of a woman about fifty years of age. In this instance the affected portion of the gland solely was removed.

On the 30th of April, two carcinomatous breasts were excised by Mr. Holmes Coote, at St. Bartholomew's Hospital. In one, the entire cutaneous covering was affected with the disease, extending inwards; in the other, there was general infiltration of the gland. And, on the 14th of May, we saw Mr. Fergusson remove the entire left breast of a woman, sixty years of age, at King's College Hospital, in whom the cancerous disease had been present for ten years. She latterly became very nervous and anxious about herself, and wished it to be removed. In all of these, the true nature of the malady was well marked.

On the 4th of June, the last-named surgeon removed a tumor from the left breast of a woman, aged about sixty years, at the same hospital. It was as large as half the closed fist, and looked like scirrhus undergoing strumous degeneration, although the yellowish spots sometimes seen by no means possess the elements of true tubercle. The tumor only was taken away.

On the same day (June 4th), at the Charing-cross Hospital, Mr. Canton amputated an enormous scirrhus mass, which was formed by the right breast of a woman aged fifty-four, whose complexion was florid, and habit fleshy. The cancer contained a good deal of fat in its structure. The left breast of this patient was amputated by Mr. Canton, three years ago, for the same disease.

#### LONDON HOSPITAL.

*Aneurism of the Arch of the Aorta, projecting between the second Rib and the Sternum.*

(Under the care of Mr. ADAMS.)

As a companion to the cases of aneurism of the aorta which appeared in our "Mirror" of the 14th instant, we add the following example, the notes of which were taken by Mr. D. W. Bush. The patient is still under treatment, which so far has proved beneficial, especially the application of the ice and astringent lotion to the tumor, which, by its projecting outwardly below the second rib, has evidently absorbed a part of the sternum.

Wm. B—, aged fifty-eight years, by occupation a dock laborer, was admitted into the above hospital on the 3rd of May, 1859, with an aneurism of the arch of the aorta and commencement of the arteria innominata. This patient, a strong, healthy-looking man, states that he worked at the tea warehouse, London Docks, for the last twelve years, being principally occupied in car-

rying wood &c., on his left shoulder up five flights of stairs. About four months ago he complained of a pain extending from the elbow to the shoulder on the right side, which was worse when he was at rest. A month after this he first noticed a lump of the size of a filbert, on the same side, opposite the junction of the second rib with the sternum, which continued gradually to increase until his admission, although he did not discontinue his employment until a fortnight previously, his labor having been considerably lightened. He had previously enjoyed good health, both in India (where he was on service several years) and in England. He has, however, had an occasional attack of asthma lately, of which disease his father died at an advanced age.

When examined, he had a tumor, about the size of an egg, just under the second rib, in which pulsation was very marked, a portion of the sternum being apparently absorbed. Mr. Adams thought that the pulse was stronger on the right side than on the left. He was ordered rest, milk diet, and beef tea; was bled to eight ounces, and to take ten minims of tincture of digitalis every four hours; ice to be kept on the tumor. He was also seen by Dr. Andrew Clark the same day, who approved of the treatment, and recommended, in addition, a saturated solution of tannic acid and alum as a lotion to the tumor under the ice, which was accordingly employed.

June 7th.—He has been under this treatment ever since his admission. The tumor is much decreased in size; no difference in the pulse on either side can be observed.

#### UNIVERSITY COLLEGE HOSPITAL.

*Long-standing Disease of the Prostate and Bladder; Retention of Urine to the amount of Five Pints.*

(Under the care of Mr. HENRY THOMPSON)

Enlargement of the prostate is an affection which appears only in advanced life, notwithstanding the impression entertained by many surgeons that it is a disease very commonly met with when the hair begins to turn grey. In relation to this question, Mr. Henry Thompson states in his recent work "On the Enlarged Prostate," that although it never appears but at the period we have mentioned, yet "it is not, therefore, a natural or necessary concomitant of age. It is, on the other hand, a complaint which the very large majority of elderly men escape. Contrary to the generally received opinion, its occurrence is not normal, but exceptional." (p. 65.) Mr. Thomson's facts prove very clearly that prostatic enlargement so far from being an invariable or usual change in the aged, is an exceptional condition. We refer to this important fact here because the mistake is often made of attributing retention of urine to hypertrophy of the gland when the patient has

reached a certain age. In the following case, however, in which the prostate was four times larger than natural, it produced retention of urine; and we remember a very similar case under Mr. Curling's care, at the London Hospital, some months back.

In the present instance, besides the enlargement, there was much disease, which was participated in by the bladder, producing retention of urine to the extent of five pints. The precaution adopted in this case of drawing it off at intervals, to prevent a fatal syncope, is an essential point which cannot be too much insisted upon; for we have seen, on more than one occasion, a fatal result ensue, in an aged patient, by completely emptying a distended bladder at a single sitting. Mr. Thompson, so far as we are aware, appears to be the only writer who especially draws attention to the subject, and the value of his remarks is our excuse for quoting them entire:—

"In very rare instances, the removal of a large quantity of urine, amounting to several pints, has been followed by fainting and depression, from which the patient has never rallied. When the extent of vesical dullness is very considerable, it is therefore prudent to afford relief in a gradual manner, and, supposing that the catheter is retained, this may easily be accomplished. The removal of some thirty or forty ounces will probably afford complete ease, and after the lapse of half an hour or an hour, another portion may be withdrawn; in this manner the bladder may be gradually brought to adapt itself to the normal condition of contraction, which subsequently, as a rule, must be ensured, at least once or twice a day." (p. 180.)

The interest and importance, therefore, of the subjoined case will be at once recognized, for the patient was not only aged, but weak and debilitated. A fatal syncope was averted by the treatment adopted, but, owing to other causes, he succumbed nine days afterwards.

An extremely infirm old man, aged seventy-eight years, was admitted for relief of retention of urine on the 27th of April, 1859. Several attempts had been made before his admission to pass a catheter, but without success. Mr. Thompson, being in the ward at the time, examined him immediately, and found the bladder forming a large tumor, reaching to the umbilicus. The patient was suffering great agony, and was much exhausted. He passed a No. 9 silver catheter without difficulty into the bladder, when a quantity of dark-colored and foetid urine flowed. The patient showing signs of increased weakness, and the pulse, which was carefully examined throughout, becoming very feeble, thirty ounces were only withdrawn, and the catheter stopped, and tied into the bladder, —Mr. Thompson remarking that a large quantity of urine remained in the bladder, and that in such a subject it was extremely dangerous to withdraw more than a moderate quantity at a time. He stated that he had known death from

syncope to occur through neglect of this precaution. The prostate was found to be considerably enlarged by rectal examination, and the bladder pressing down into the bowel from extreme distension. An hour afterwards, he withdrew rather more than a pint, and four or five hours afterwards, more than two pints and a half, which emptied the bladder. More than five pints had been thus withdrawn in the same number of hours. The catheter was left in. Stimulants and strong fluid nourishment to be taken freely.

April 28th.—The silver catheter was exchanged for a gum catheter. The patient much better, and expressed himself as greatly relieved.

29th.—The gum catheter having slipped out in the night, it is found that he has no power to void any urine by his own efforts. It is replaced, and a piece of India-rubber tube, about four feet long, is attached to the mouth of the catheter, the other end of the tube being placed in a vessel beneath the bed. Mr. Thompson is in the habit of adopting his plan, which effectually prevents the bed from being wetted, and carries off offensive urine to any distance from the patient which the condition of it may make desirable. In this case, the urine is extremely foetid, and loaded with muco-purulent matter.

May 1st.—The patient is excessively weak; it is still necessary to provide for the removal of all his urine by means of instruments, as he has no power to expel it.

3d.—He daily grows weaker, refuses nourishment, and takes only stimulants. It is apparent that at his great age, and with the amount of disease present, he must soon succumb.

5th.—He gradually sank, and died this morning.

7th.—*Post-mortem examination.*—The whole of the urinary apparatus was removed entire. The kidneys were about the natural size, but congested; the uterus not enlarged. The prostate was at least four times as large as in the healthy state, and contained numerous rounded bodies, constituted apparently chiefly of glandular substance. There were numerous cavities filled with dark concretions. The bladder was large, and hypertrophied; the mucous membrane dark in color and highly injected. Two sacculi existed, capable of holding from one to two ounces of urine. The neck of the bladder was greatly obstructed by the enlarged prostate.

#### DREADNOUGHT HOSPITAL.

##### *Two Cases of Diphtheria, followed by Recovery.*

(Under the care of Dr. BARNES.)

THE two following cases of diphtheria are chiefly taken from the case-books, and are full of practical interest.

CASE 1.—J. L., a sailor, aged thirty-five, landed from a voyage to Jamaica on the 19th of

August, 1858, and lodged during the ensuing week at Jamaica-place, Commercial-road. He felt in good health until the 24th, when he first experienced a little stiffness and soreness under the jaws. On the morning of the 25th he did not feel much worse, but towards evening, the stiffness increased, with swelling under the jaws, ptyalism and fever. He was admitted on the 26th, when the ptyalism was exceedingly profuse; there was intense inflammation of the mucous membrane of the tongue, mouth, and fauces; a plastic membrane covered the tongue, and lay in patches on the velum, fauces, and inside the lips; the tongue was enormously swollen; the swelling and soreness under the jaws were great. He was unable to swallow anything, even liquids; there was, however, no dyspnoea. He spoke with difficulty. Pulse small, quick; skin cold. The membrane, when examined, showed no trace of vegetable organisms. He was ordered chlorate of potash, fifteen grains in water, every two hours, and to sponge the mouth frequently with pilane hydrochloric acid; wine six ounces.

On the following day, he had experienced much relief from swallowing slowly small lumps of ice, and from the hydrochloric acid gargle; can swallow, and has taken beef-tea during the night. The swelling of the tongue and of the tissues under the jaws and the ptyalism have diminished. The membrane is thrown off in pieces, but is immediately succeeded by a new thin one, which is exuded in its place. The pulse was a little stronger, but still weak; the skin cold.

The patient went on improving under nourishing diet, and left, contrary to advice, in three days. He was still anæmic.

CASE 2.—J. A.—, a Russian Finn, aged nineteen, of robust frame, was admitted, under Dr. Barnes, on the 18th of January last. When on the passage from the Baltic, and four days prior to the arrival of the ship in the Commercial Docks, (that is, on Jan. 7th,) he was seized with shivering and vertigo, and, for two or three days before admission, had been much purged.

On admission, he complained of pain over the forehead and eyes and dyspnoea. Pulse 96; skin hot; tenderness on pressure over abdomen, but no spots; face flushed, and looked slightly swollen. No pneumonia. Access of typhoid diagnosed. Ordered acetate of ammonia; milk, strong beef-tea, and eight ounces of wine.

Jan. 19th.—Purging having continued, he had an enema of starch and laudanum, which relieved it. The mucous membrane of the mouth and fauces was now observed to be inflamed; the gums were swollen, and there was difficulty in breathing.

20th.—Dyspnoea increased; a plastic membrane covered the tongue and fauces; fever and prostration great. To take quinine mixture.

On the 21st and 22nd prostration had increased. Two large pieces of membrane were blown out through the nostrils. The blanched anæ-

mic aspect was striking. Fifteen minims of the tincture of sesquichloride of iron, and an equal quantity of dilute hydrochloric acid, were added to the quinine mixture; twelve ounces of port wine; to swab the mucous membrane with dilute hydrochloric acid. The prognosis was at this time very unfavorable.

23rd.—He is better; marked benefit from the local application of the hydrochloric acid.

24th.—Tendency to diarrhoea.

27th.—Has gone on improving, the same treatment having been persevered in.

29th.—Still improving, but very anæmic; the mucous membrane now clean; no submaxillary swelling.

On the first of February he was ordered eggs, a chop, six ounces of wine, and a pint of porter. On the 15th, although gaining strength, the anæmic condition was still striking. He was discharged about a fortnight later, quite well.

The observations made by Dr. Barnes were, that in this case diphtheria seemed to supervene on typhoid, which it continued to complicate; that, although daily examinations of the skin and urine were made, there was neither redness, desquamation, nor albumen to support the presumption of identity with scarlatina; that the anæmia was more marked, and was manifested earlier, than he had ever seen in scarlatina; that there seemed to be some peculiarly intense destructive agency upon the red globules; that repeated examinations of the membrane never revealed any vegetable organisms; and that wine, beef-tea, quinine with sesquichloride of iron, and free sponging with hydrochloric acid, exerted a marked beneficial influence over the disease.

These cases may be regarded as typical of a form of diphtheria which the observations made and collected by Mr. Ernest Hart, in his report on this disease, show to have been very prevalent in this country. It has been especially severe in Lincolnshire, and many cases have been observed in which it has supervened upon scarlatina during the period of convalescence. Such cases have been noted by Dr. Copland, amongst others.

## Clinical Records.

### WOUND OF THE AXILLARY ARTERY AND MEDIAN NERVE FROM A FALL THROUGH A SKYLIGHT.

On the 3rd inst., a man thirty-two years of age, fell through a skylight, and severely wounded his right arm, which bled profusely. He was taken to the London Hospital, and admitted under the care of Mr. Adams, who found, on examination, that not only was the axillary artery wounded, but that the median nerve and venæ comites were completely cut across, probably by the glass of the skylight. He accordingly tied the axillary artery. The man was kept very quiet, and seemed to be progressing favorably till the third day, when traumatic gangrene

commenced in the forearm and was spreading upwards. Under such circumstances, no resource was left but amputation of the arm, which was performed pretty high up, above the seat of injury. Although but a few days had elapsed when we saw the patient, the stump was healing kindly, and we believe he will make a good recovery.

It is well known that traumatic gangrene is truly a constitutional affection, and is attributable to the state of the blood more than to the local injury. In the patient we have just referred to, we think the gangrene was the result of the destruction of nervous power by the division of the median nerve with its accompanying veins, and this view is somewhat strengthened by the fact that he has had no very severe constitutional symptoms.

#### NON-DESCENT OF THE TESTIS ASSOCIATED WITH STRANGULATED HERNIA ; OPERATION.

A person, in whom one or both testes may not have descended may possibly go through life without being ruptured, but the tendency to rupture in such an individual will always remain. A young man whose right testicle remained within the abdomen, and who had never suffered from hernia, became suddenly aware of the presence of a tumor in the groin, whilst carrying a weight of 107 pounds. The swelling increased in size, and became very painful, as he bore along this heavy load. He afterwards became sick, and sent for a surgeon, who applied the taxis for an hour and a half without success, after using much force, the tumor at this time not being very large. He was at once taken to St. Bartholomew's Hospital, and was very sick when admitted, the tumor having increased in size. The left testicle only was in the scrotum. His bowels were relieved the day before the accident (June 9th), and he remained quiet till the 11th, when Mr. Lloyd determined at once to reduce the hernia by operation. It was now large and prominent, occupying considerable space in the right groin. Chloroform having been administered, an attempt was made to divide the stricture at the abdominal ring, external to the sac, but this could not be accomplished. The sac was therefore opened, and out gushed a large piece of soft omentum; much infiltrated with blood and ecchymosed; the bulk of the tumor, however, consisted of small intestine. The stricture was now divided, and the bowel returned; but a question arose as to what was to be done with the omentum. Mr. Lawrence, Mr. Stanly, and others, recommended that it should be cut off, which was done, after applying a ligature around it. Several vessels were tied. On examination, Mr. Lloyd found he had divided the cord of the undescended testis, which had so surrounded the abdominal ring as to appear a portion of the stricture; the testicle itself, however, was not met with.

The prognosis of this case was necessarily serious, from opening the sac, and cutting away

the omentum, already in an inflamed state. The patient subsequently succumbed.

#### FISTULA, HERNIA, PURPURA, AND VARIOLA, IN THE SAME PATIENT.

A nobleman's footman, about twenty-one years of age, was recently an out-patient at the Royal Free Hospital, with fistula in ano and an inguinal hernia, under the care of Mr. de Méric. He was to be submitted to an operation for the cure of the former, when he was attacked with purpura over both of his legs, for which he became an in-patient, under the care of one of the physicians. After being in the hospital two days, the simple form of variola set in, which ran its course uninterruptedly, and when we saw him on the 13th inst., he was approaching convalescence. During the attack, however, it was found necessary to support him with wine. He had been vaccinated when young. One of the nurses in this hospital has just contracted small-pox, which in her case is clearly the result of contagion.

#### DESTRUCTION OF THE HAND AND FOOT.

Sometimes the most trivial surgical maladies take on an inflammatory action, which spreads to important parts, and may involve the loss of a member. Such a case we saw at St. Bartholomew's Hospital on the 28th ult., under Mr. Skey's care. Five weeks before, a woman apparently in very ill health and of bad constitution, was suffering from an abscess of an ordinary character in the thumb and another in the little finger. Both were opened by Mr. Batten, the house-surgeon. The inflammation, however, extended to the wrist, and numerous consecutive abscesses formed, which were treated in a similar manner. The wrist-joint now became involved; and as the mischief seemed irreparable, no resource remained but amputation of the forearm, which Mr. Skey performed at its upper third at the date mentioned, and since the operation we learn the patient is doing well.

On the 9th inst., we saw Mr. Adams remove the lower limb of a man in the London Hospital, for general disease of the leg and foot, which originated primarily in a compound fracture of the bones of the leg near the ankle, for which he was admitted on the 10th of April last. Shortly after his admission, a portion of the lower end of the tibia was removed; but the healing process did not go on kindly. Infiltrating abscesses formed, with destruction of tissue, which necessitated the amputation of the limb; and this was affected pretty high up, by double rectangular flaps, immediately below the head of the tibia. This was the more necessary as the abscesses had extended freely upwards. The man's constitution appears to be enfeebled, but we see no reason to doubt his recovery. The rectangular flaps adopted in this case by Mr. Adams were not those of Mr. Teale.

On the 28th ult., we examined the stump of a boy in St. Bartholomew's Hospital, whose left thigh had been amputated seven weeks be-

fore by Mr. Coote, for disease of the knee-joint of four years' standing. His health was good, but the long anterior rectangular flap of Teale (which was made on this occasion) had considerably shrunk, thus reducing the stump to the condition of an ordinary antero-posterior flap operation. Experience has yet to show whether this shrinking is likely to prove a common result in Teale's flaps.

#### FIBRO-PLASTIC TUMOR OF THE NECK.

THE side of the neck—that is to say, the part of it posterior to the sterno-cleido-mastoid muscle—is subject to every variety of tumor which comes under the notice of the surgeon for removal. Our "Clinical Records" have afforded illustrations of the greater number, many admitting of extirpation, and others again involving structures of too great importance to permit of such a proceeding. When a tumor is freely movable, well defined in its general characters, and apparently not too deeply situated, its removal is attended with prospects of success, as in an instance which we saw at Guy's Hospital on the 27th ult., in an elderly man under Mr. Hilton's care. A circular, prominent growth, of the size of an orange, occupied the right side of the neck, a little above the clavicle. It was freely movable, had been growing slowly for twenty-five years up to six or seven months ago, from which time its increase has been more rapid, and hence was likely to involve the more important parts in this region of the neck. It was therefore taken away, with a second growth, of the size of a walnut, situated above it, and both were found to be somewhat deeply planted between the sterno-mastoid and trapezius muscles. On section, it presented the characters of a fibro-plastic tumor, and since the operation the man has been doing well.

#### FRACTURE OF THE NECK OF THE FEMUR: ABSENCE OF SOME OF THE USUAL SYMPTOMS.

WE lately examined two cases of fracture of the neck of the femur within the capsular ligament, in the Westminster Hospital, which were chiefly remarkable for the absence of some of the usual signs diagnostic of this form of injury. The first of these was a woman, fifty-seven years of age, who tripped over a mat, and fell on her side; she became quite helpless, and was brought to the hospital, and placed under Mr. Brooke's care. On careful examination, distinct crepitus was felt within the capsule; there was no shortening nor eversion of the limb, and she had the power of drawing it up in bed. There was no flattening of the hip and no impaction, yet the diagnosis was pretty clear. In two or three days the limb was two-thirds of an inch shorter; the foot was slightly everted, but she could invert it again, and still draw it up in bed. The limb was put up in a long Liston's splint.

The second case was that of a male patient, aged fifty-five years, and was somewhat similar to the preceding. No shortening of the limb

was present; but there were complete eversion of the part, and very indistinct crepitus. The injury seemed to be but a bruise. Seven days afterwards the limb was examined under chloroform, during which shortening occurred, and very distinct crepitus was heard and felt. No splint was employed in this case, and the patient left the hospital some nine weeks afterwards, walking lame, with a crutch.

In relation to the absence of shortening which was observable in both cases, it must be remembered that this is no uncommon occurrence for the first few days, when the neck is fractured *within* the capsule, and this is mainly due to the (more or less) integrity of the ligament of Weitbrecht. After a while the shortening becomes more decided, as the ligamentous fibres become lacerated from the patient's exertions. A feature of interest was the power possessed by both patients of drawing up their limbs in bed.

#### CHIMNEY-SWEEPERS' CANCER.

THIS well-known, although now less common, disease, which was first clearly described by Pott, occasionally presents itself for treatment at our hospitals. The irritation produced by the soot which lodges in the folds of the scrotum gives rise to the formation of a tubercle, or *soot-wart*, which becomes inflamed, cracks, and ulcerates, and assumes the characters of epithelial cancer.

A stout chimney-sweep, about thirty-five years of age, was brought into the theatre of St. Bartholomew's Hospital, on the 28th ult. with two ulcerated tubercles, situated on the right side of the scrotum, towards its most depending part. These had originated in the manner described, and were removed by Mr. Stanley, who took up the portion of the scrotum containing them between the blades of a pair of curved forceps, cutting along their under surfaces with a scalpel. The disease was not extensive, and the present was the first attack of it sustained by the patient. He was advised to give up his employment, else a return of the cancer would surely ensue; but he declared that he was proud of it, and would not resort to any other avocation. It is most probable that an early removal like the present, before glandular implication has ensued, would be followed by a perfect cure, were the exciting cause of the complaint to cease; otherwise it will sooner or later return, and ultimately destroy life.

The diseased mass was cut into two portions, and presented by Mr. Stanley to two distinguished American physicians who were present, for their museums. The operation on this occasion was performed without chloroform.

#### FALL FROM THE TOP OF A HOUSE, AND IMPALEMENT ON THE AREA RAILINGS.

WE have many times recorded the results of falls from a great height, wherein the patients have either been immediately killed or have recovered from their injuries, the latter being oc-

asionally comparatively trivial when the nature of the fall has been duly weighed. There is a lad, fourteen years of age, in one of Mr. Erichsen's wards at University College Hospital, who is recovering from some severe injuries received by an accident of the kind. On the 9th of May, he fell from the top of a house forty feet high on to some area railings. His fall was slightly broken by some intervening substance. One iron spike passed through his left thigh behind the femur, and another through the right thigh behind the same bone, which, however, was fractured. He was admitted the same day, and, besides the injuries named, the right side of his forehead and the left temple were found wounded by two other iron spikes, but fortunately not penetrating the bone. He was unconscious for five minutes only after the accident. The fractured limb was put up in starch bandages, and has united; all the wounds have nearly healed up, and he feels pretty comfortable. His recovery has been more rapid than at first sight seemed probable from the nature of the injuries sustained.

**GONALGIA IN THE LEFT LEG, AND COMPOUND FRACTURE IN THE RIGHT, WITH SUBSEQUENT NECROSIS.**

ABOUT twenty months ago, a little boy, eleven years of age, sustained a compound and comminuted fracture of the middle of the right thigh, and some injury to the left, which latter was followed by inflammation of the knee-joint. He was admitted into St. Bartholomew's Hospital, under Mr. Stanley's care, and for three months he was hovering between life and death. The fracture united, but fistulous openings remained, which communicated with the originally comminuted fragments. The acute inflammation in the left knee was followed by suppuration within the joint, which had to be opened to let out the matter, and the result was, a permanent ankylosis in that articulation. He slowly recovered his health, and gained both flesh and strength; but the condition of his right thigh required some surgical interference. A probe passed readily to denuded bone, and on the 28th ult., chloroform was administered, an incision was made at the inner part of the thigh near its lower third,—with much caution, from the vicinity of the great femoral vessels,—and after some effort, Mr. Stanley removed a piece of bone, which proved to be a portion of the original fracture. This was, so far, satisfactory; but on examination, it was discovered that there was still some more to be taken away, which was at present quite immovable. The necrosed part remaining was situated to the inner side of the vessels, and until nature further interfered to loosen it, the prudent course was adopted of leaving matters as they were for some time longer.

**INTERNAL DIVISION OF IRRITABLE STRICTURE.**

The operation of internal division of stricture is not one which has hitherto been much practised in England, although it has been applied in France to a large number of cases without any other than successful results. In the following instance it was substituted by Mr. Coulson at St. Mary's Hospital for external division, which the patient had been fully prepared to undergo. He had suffered for nine years with an irritable stricture, originating in chronic urethritis subsequent to gonorrhœa. Fits of retention occurred in 1857, when a course of dilatation by bougies was commenced, and continued with perseverance during twelve months. It was constantly interrupted by rigors and severe constitutional disturbance, following the introduction of the bougies; and was ultimately discontinued in November last. When admitted, under Mr. Coulson's care, there was found a very irritable and resisting stricture, into which a fine bougie could be passed for about five inches. There was a stringy urethral discharge, with urinary irritation, and much mental and bodily depression. Dilatation by bougies was practised during the first week, when it was resolved to perform internal division of the stricture. For this purpose an instrument was employed, composed of a canula or sheath, terminating by a flat, olive-shaped bulb. The whole length of this instrument is grooved, and lodges at the bulbous portion a narrow convex blade, which can be made to project by the action of a tongue of metal, which is pressed by a flexible stalk traversing the rest of the groove, and implanted above in a wooden handle. The extent to which the blade is made to project from the bulb is at once regulated and indicated by a rack attached to the upper extremity of the flexible stalk. The situation and length of the morbid alteration of tissue having been determined, and consequently the points at which it was intended to commence and terminate the incision, Mr. Coulson proceeded to divide the stricture. The bulb was passed a few lines beyond the strictured part; the blade was then made to project, and the stricture divided by progressive traction of the instrument towards the operator. When the section was complete, the blade was again sheathed by the simple pressure of the finger on the handle, and the instrument withdrawn. This one incision was sufficient to permit a No. 10 bougie to be introduced into the bladder with ease. It was retained *in situ* till the next evening. After this removal the patient passed urine in a full stream and a No. 12 bougie can now be easily introduced. All the constitutional symptoms have simultaneously subsided.

**THE LATERAL OPERATION FOR STONE.**

On the 24th ult., Mr. Cooper Forster performed this operation, at Guy's Hospital, upon a lad fifteen years of age, who had been subject to the symptoms of stone for some time. The

calculus removed was oval in shape, an inch and a half in length, and covered with beautiful crystals of triple phosphate.

The same operation was practised upon two boys at St. George's Hospital on the 2nd inst. In the first, the symptoms of stone were present for a year, with alkaline urine. On sounding him, it was found to be large and soft. This was well seen when taking the stone away, for it broke into several pieces, all of which were removed. The nucleus was hard, but the outer crusts were phosphatic.

The second case was a boy aged eight or nine years, who was admitted with symptoms of stone, but which disappeared, and he left the hospital. These symptoms having returned, however, he was readmitted. Each time that he was sounded, the instrument never fairly entered the bladder; there seemed to be some obstruction in the membranous part of the urethra. On the 2nd inst., however, the sound was fairly introduced under chloroform, and an equally large calculus readily detected. It was removed by the same operation, but it seemed to be lodged more in the prostatic portion of the urethra than in the bladder, which condition offered some temporary obstacle to penetrating into that viscus. The calculus was covered with a layer of the phosphates, and the boy's urine had likewise been alkaline throughout.

In each of these cases the patients are doing well.

#### SIXTEEN CALCULI IN A SINGLE BLADDER.

In performing lithotomy, it is no uncommon circumstance for the surgeon to meet with two, or even five or six, stones in the bladder. If a greater number be present, they are generally of small size—in fact, the size is in the relative proportion to the number. An instance, however, in which this rule did not hold good occurred a few weeks back at Guy's Hospital. A man, aged sixty-nine years, was admitted, under Mr. Cock's care, in a dying state. His bladder was examined, and found to contain several calculi, but his condition wholly precluded the possibility of an operation, and he died some hours afterwards. When his body was examined, the kidneys were found diseased, and his bladder enlarged to an immense extent, containing sixteen calculi of uniform size, their diameter being about seven-eighths of an inch. Their dimensions were large for the number found, and can only be explained by taking into consideration the enormous permanent distension of the bladder itself. Mr. Coulson remarks, in his work on Lithotomy, that MM. Roux and Dupuytren have removed as many as 200 small calculi from the bladder. Professor Eve, of the United States, extracted 117 by the lateral operation, with recovery of the patient. In the "Philosophical Transactions," in the case of a woman is recorded who had 214 in her bladder; and Dr. Physick removed from a Judge in the

United States upwards of 1000 calculi, varying in size from a partridge-shot to a bean, and each marked with a black spot.

#### RADICAL CURE OF HERNIA BY WOOD'S OPERATION.

Within the past few weeks, Mr. Price has resorted to Wood's operation for the cure of hernia, at the Great Northern Hospital. The patient, a man thirty-nine years of age, had suffered from an oblique inguinal hernia of the left side for nearly six weeks. The rupture was occasioned by lifting heavy weights. The protrusion was small, and did not descend into the scrotum. The case appeared in every way adapted for the operation of a radical cure; which was carried out in accordance with the originator's directions. The ligature passing through the parts forming the internal ring cut itself out on the 17th day, while that employed to draw together the pillars of the external opening did not come away till some days afterwards. The patient did not suffer in any way during the treatment, and at the end of five weeks the consolidations of the tissues forming the canal were perfect, and, to all appearance, the cure was complete, as the man was enabled to walk for a considerable distance without inconvenience of any kind.

On the 21st ult., we were present at Ling's College Hospital when Mr. Wood repeated his operation on a case of oblique inguinal hernia, in a male patient, with success; and on the 28th he was shown to the pupils, a cure having resulted in the short space of a week.

#### STAPHYLOMA FROM VARIOLOUS OPHTHALMIA.

A little girl, about nine years of age, was admitted into University College Hospital, under the care of Mr. Wharton Jones, with a very prominent staphyloma of the left eye, which caused much irritation and distress, as well as sympathetically affecting the opposite eye. The diseased eye was the result of a former varicelous inflammation, which produced ulceration and almost complete destruction of the cornea from sloughing. The result of this was the formation of a staphyloma, produced by the protrusion of the iris with the pupil, which projected considerably forwards. Mr. Jones introduced a cataract knife, and divided the lower segment of the staphyloma, and with a pair of scissors cut away the remainder of it; this was followed by escape of some of the contents of the globe. The object of the operation, as he stated, was to remove this projection, causing so much distress and acting as a source of irritation to the opposite organ, and also to reduce the eye to such a size as will permit of the girl wearing an artificial one hereafter if she desire it.

Since the operation the globe has shrunk, and the patient is making a good recovery, with a healthy right eye.



# WOUND OF THE THROAT BY A TOBACCO-PIPE; LIGATURE OF THE CAROTID ARTERY.

Wounds of the inside of the throat and fauces assume importance according to the parts injured and the nature of the instrument producing them. Any blunt body may cause such an amount of mischief to the great vessels of the neck as to require a ligature to be put upon them. A case illustrating this is at the present time in St. Mary's Hospital, under Mr. Ure's care.

A healthy man, thirty-five years of age, a fortnight before his admission, having a tobacco-pipe in his mouth, received a blow from his wife, which struck the pipe, thus inflicting a wound with the stem upon the anterior pillar of the fauces of the left side. He attended as an out-patient of the hospital; but was admitted as an in-patient on Saturday the 21st ult., at one o'clock P. M., having lost according to his own statement, "some quarts of blood." He was then spitting up blood, which he continued to do from time to time. He was ordered ice to suck, small doses of turpentine internally, and the inside of the throat to be swabbed with the perchloride of iron. About eight o'clock in the evening of the same day Mr. Ure was sent for, the patient having lost a pint of blood in five minutes. He was exsanguined to an extreme degree, his tongue was anæmic, the hæmorrhage being restrained in the meantime by continued pressure on the trunk of the carotid. Mr. Ure found it necessary to cut down upon, and place a ligature around, the trunk of the common carotid artery, immediately above the omohyoid muscle. No chloroform was given to the patient, nor was he removed from the ward for the operation. He slept well all night. About twenty minutes to ten o'clock A. M. on the 22nd he brought up an ounce of blood, and at noon half an ounce. He was directed to sip a teaspoonful of saturated solution of gallic acid (five grains to the ounce of water), and he swallowed in the course of the day some forty grains. The day after (23d) he slept from midnight to four o'clock A. M., and then brought up half an ounce of blood. He was supported by milk and ice and beef-tea. Since then there has been no recurrence of hæmorrhage. On the 25th he was slightly feverish, and the edges of the wound looked rather red. A bread poultice was applied, and saline medicines were ordered. There were no head nor chest symptoms after ligature of the vessel. Up to the 31st he has been going on favorably, and is likely to recover.

## A GROUP OF WENS.

The sight of a number of large wens on the scalp is one of rarity at the present day, because patients do not usually allow them to go on increasing in size without seeking surgical relief. From timidity, or some other cause, however, a few persons will be found who permit them to grow until the great inconvenience and unsightliness of their appearance compel the pa-

tient to get rid of them. An isolated example of the kind was recently to be seen in the female surgical ward of Kings College hospital, in an elderly woman, the upper and anterior part of whose head was literally covered with wens of various sizes, the largest as big as a hen's egg, and the smallest the size of a pea. Mr. Fergusson removed the greater number of them on the 14th of May, in the usual manner, the larger being filled with a thick pultaceous steatomatous material, whilst the smaller were firmer and harder, and had a pearly cartilaginous appearance. Their removal was accompanied, as usual, by free bleeding. The only inconvenience to which the patient is exposed after such an operation as that we have noticed, is the occurrence of erysipelas; but provided there has been no irritation about the growths, and the general health of the patient is good, it may not present itself to interfere with the healing up of the wounds.

## A BROKEN SHOULDER-BLADE.

Of the bones entering into the formation of the arm and shoulder, the most seldom broken is the scapula: and this is due to its position, which protects it from damage by ordinary accidents. Fracture through the neck of the scapula is, however, of more common occurrence than at any other part of the bone, although this is very rare; its very existence having been denied by some surgeons of authority. An instance of fracture of the body of the bone by direct violence presented itself, on the 15th ult., at the Westminster Hospital, amongst the out patients. The patient was a man about forty years of age, who was squeezed between a wall and a cart, the only injury sustained being a longitudinal fracture of the right shoulder-blade, running through the spine of the bone. There was not the slightest difficulty in making out the true nature of the injury on the part of Mr. Adair, the house-surgeon, who treated it by the application of a pad in the axilla, and a bandage round the body, binding the arm to the side as well as supporting it in a sling. Callus has already been thrown out, and the fracture promises to unite. We may observe, that the form of fracture in this patient is one that has not, so far as we are aware, been heretofore noticed; that usually met with being in a direction across the supra-spinous fossa, nearly parallel with the spine of the bone itself.

## DOUBLE HERNIA—STRANGULATION IN ONE SAC—CURED BY OPERATION.

The existence of a double femoral hernia may introduce a singular complication into the diagnosis when symptoms of strangulation occur. In a case recently admitted into St. Mary's Hospital, under the care of Mr. Coulson, there were two femoral hernia, of which the sacs were very similar in aspect and dimension. The patient was a female, well advanced in age; she had been ruptured for many years,

and the herniæ were partially irreducible. Symptoms of strangulation had set in, following straining; and the question to be determined was, on which side the operation for relief of the gut was needed. This point, however, was set at rest by careful examination, and Mr. Coulson, after opening the sac, found the bowel and omentum strangulated. It was necessary to remove a portion of the strangulated and adherent omentum below the point of adhesion. The patient recovered without any bad symptom.

#### MINOR MISCELLANIES.

*Resection of the Thumb.*—On the 13th ult., we were shown, at the Westminster Hospital, a woman upon whose left thumb resection had been performed by Mr. Brooke, six weeks before, for caries of the metacarpo-phalangeal joint. The parts had perfectly healed, and a most serviceable finger was obtained, with the prospect of much future useful motion.

*Adipose Growths at the back of the Neck.*—On the 7th ult., Mr. Stanly, at St. Bartholomew's Hospital, removed a small fatty tumor from the neck of an hysterical girl, which was situated to the right of the vertebra prominens. It was readily got away, but the patient, although under the influence of chloroform was in an extremely excitable condition.

A tumor of the same kind, the size of an orange, was excised by Mr. Ferguson, at King's College Hospital, on the 14th ult., from immediately below the same vertebra as in the preceding case. The patient was an elderly woman who had had it for some years; its outer surface was rather firmly adherent to the skin, from some old inflammation.

*Ligature of Piles in a deaf and dumb patient.*—A rather severe case of piles was treated by ligature some weeks back by Mr. Erichsen, at University College Hospital. The patient was an elderly man, who could only express his feelings by signs, as he was deaf and dumb, and had always been so. He was put under the influence of chloroform, and no difference was perceived between him and other patients whilst in a state of anæsthesia. There was much loose mucous membrane around the piles, which sloughed off in a few days, and contraction ensued, bringing about a complete cure.

*A Fibular Cyst injected with Iodine.*—A man about forty years of age, sustained an injury over the external part of the left fibula, which gave rise to the formation of a fluctuating tumor. For this he applied at the Westminster Hospital, to Mr. Holt, who introduced a trocar and canula, and let out a glairy fluid. It thus resembled an ordinary ganglion, but the situation is unusual for that form of tumor. It refilled, and on the 19th April was treated like a hydrocele by the injection of iodine (a drachm of the tincture to six ounces of water) into the cyst. This has been followed by some amount of in-

flammation, and, should it not completely succeed, Mr. Holt will dissect it out. He treated a somewhat similar tumor in the neck of a child, a few weeks back, by the same method, which in that instance was quite successful.

#### MARTYRS OF THE AGE.

If any "used-up" gentleman who has fruitlessly exhausted himself day after day in meditation, or in aught else, at the bow window of his club, in expectancy of a "new sensation," would apply to us, we think we could assist him as regards the object of which he is in search. We warn him, however, that we could not allow him to be particular, and that so long as we treated him to something both novel and of decided *goût*, he would have to be content with his dish. But we could promise him this, that our "new sensation" should be one he had never felt before, and that, if he continued to indulge in it with but a small amount of constancy, he should, if made at all of penetrable stuff, for the future contemplate society from—to him—a very profitable, though peculiar point of view. That he must not be squeamish, we caution him; for however correct Archdeacon Hale may have been in reminding us that death is precisely as natural as life, we certainly do not so much seek its contact. And with death and disease we should have to work; in fact, we should hurry our friend from all those delicate and refined usages of the world which surround him, but which he has, nevertheless, found so "stale, flat, and unprofitable," and stop only when we had reached those grim abodes of misery and labor whose inhabitants have been dowered with a short life, which is nothing after all but a long dying. Our duty would be to show him that gaunt demon of suffering who presides over the many applications of human industry to the conveniences and the luxury of our time.

But lately a despot died; the *jubilants* for the event have scarcely ceased their sound at Naples ere the Court of a free and Protestant country proclaims a solemn *miserere* for it by what is termed "going into mourning." Admirable sympathy!—but that is not our present point. We have to take our friend from St. James's to the millinery factories of the chief city of the world. Why? To show that when all the Court of England goes into mourning, four dozen girls\* are rendered blind for life, so trying to the eyes is the immense labor on black lace which such an event entails! Reader, does this startle you? We would give our friend the opportunity for further disclosures in connexion with lace. For instance, some of the choicest kinds require a thread so fine that it must be spun and worked in damp cellars—a process which costs annually hundreds of female

\* This assertion is based upon what have been stated to be "true futable facts."

lives. Not many months since, a young woman, employed in lace cleaning, died in Paris under circumstances which necessitated a judicial inquiry. The post-mortem examination of the poor creature's body revealed the presence of large quantities of oxydized lead in the system. She had worked at cleaning lace by the "Belgian process"—a process in which the lace is whitened by repeatedly dusting it with "white lead." From the time it was spun in the damp cellar to its revivification from the yellowness of years, would our friend find the material of his Court ruffles too often but a beautiful luxury entailing suffering and death. True is it that, but few are permitted to regale themselves in this costly garniture of fine and courtly lace.

But who does not rejoice in "lucifer matches," "congreves," or other spontaneous inflammables composed of phosphorus? Let us go to White-chapel, if our friend can possibly for once go east of "Wussell-square." That classic region attained, let us enter a factory. Strange place it is—in some parts how terribly draughty!—well it is so, or the fumes from the drying matches would be concentrated poison. But what is that miserable, mumbling creature about who is alternately stooping towards a pot and placing his hand against his jaw? His occupation all day is to sit over a pot of melting glue and other ingredients, and to cut sticks of phosphorus into the size of a pea, and to throw them one by one into the glue. And from what does he suffer? Why from incurable disease, or total destruction of his lower jaw-bone. For the sake of employment and at good wages, he begins exposing himself to the fumes of phosphorous acid with a rotten tooth or two in his head. In no long space of time, he is seized by toothache and annoyed by gumboils. Abscesses follow, and his teeth drop out. But he works on, until he has nothing left but "a rotting and diseased periosteum, and a jaw-bone as dead and as dry as one might see in a churchyard, for it is not at all like caries or necrosis." Can we wonder at what the "Annales d'Hygiène" tells us—that in France the laborers at this dangerous employment are dissipated in their habits, irregular in their attendance, and recruited from the lowest class? True it is, the "dippers" in some factories wear sponges before their mouths, and the work-people are required to wash their hands night and morning in a solution of soda. Some careful workmen without bad teeth luckily escape altogether, *if the ventilation be very good*; others are infinitely less fortunate. We have heard of a young man who, laboring under the effects of the fumes of phosphorus, presented himself for examination. Although he had not been engaged in the manufacture of lucifers for eighteen months, he yet smelt so strongly of phosphorus that he impregnated the atmosphere of the room. He had never taken a bath, and, from his extreme poverty, had probably worn the same clothes for eighteen months.

Let us visit one of the workrooms which are

kept up during the London season to meet the "instantaneous demands" upon the fashionable tailor. There it is, sixteen or eighteen yards long, and seven or eight yards wide. Eighty men are packed together, working knee to knee. They must have candles even in summer, for they work late. What with the heat of the men, the heat of the irons, and the heat of these candles, the mephitic air is twenty to thirty degrees higher than it is outside—and it is summer time too! The fresh tailors from the country faint away, and they complain of the heat and smell as intolerable. The men are sitting as loosely dressed as possible, the perspiration streaming from them. On what they call the cold nights the room is so hot that, large thick tallow candles (quarter-of-a-pound candles) have melted and fallen over from the heat. The young hands are unable to work full time; the old hands lose appetite: thirst takes the place of hunger, and gin of food!

But not alone do lace-makers and milliners, workers with phosphorus, and tailors, pursue their callings—the source of their own sustenance and of the luxuries and conveniences of the world—under circumstances which hurry them to an early grave. Scores of arts are thus burdened with fearful penalties to those who practice them; and though man pushes on with new inventions, he is reckless of the results of the old, only caring, indeed, to show what further brilliant and startling novelties can be produced to further the luxurious disposition of the age. What is the history of a London workshop? Dr. Guy shall tell us:—

"A man begins by employing a few hands in a house, often ill adapted for an ordinary dwelling-house; and as his business increases he contrives to add one low apartment to another, by knocking down partition walls and making such alterations as suit his immediate purpose. He contrives by this means to accommodate an increasing number of men, and the only practicable limit to that number is the want of more standing or sitting room, as the case may be. He warms these rooms by a stove, by steam, or by hot air and lights them with gas: the consequence is that the workmen are exposed at the same time to a high temperature and a foul and stagnant atmosphere. This combination is carried to its highest degree in the tailors' workshop; and I have been told, more than once, by the journeymen tailors themselves, that they have been obliged to strip to the very skin, that they might be able to bear the intense heat to which they are exposed. In buildings intended for workshops, more space are given to the men; but they are usually constructed on very bad principles. The whole building often forms one space, divided by floors perforated by a common staircase; if a steam-engine is employed, it is generally to be found in a lower apartment of the building, so that the heat rises from this into the upper rooms, and, mingling with the foul air of the intermediate floors, ascends to the highest flat, where the heat and foul air collect in great abundance."

From such places as these come all the more complex and important offerings that applied science can make to the refined requisitions of the day.

Let us change the scene and go where misery and starvation create a science of their own. We stop at the "Ruins" near Turnmill-street, Old Field-lane. In a wretched alley there is a garret, where live a widow and four children. The room has a curious aspect, for its corners are filled with scraps and fragments of paper, rags, and cloth of every shape and color, which the children are sorting out into separate heaps, while the widow superintends them, and works herself. The whole family gain their living—if such slow death deserves that term—by rising early in the morning, (when the widow and her children go forth,) and, each taking a certain district, wait till the City warehouses are swept out, when they carefully watch and gather up the rubbish of paper and rags which are cast into the streets. Until noon all are thus occupied, when each returns with a little bundle to the garret where they dwell, and they pass the remainder of their time in sorting out and drying the proceeds of their labor. On a fine day, by such incessant labor, this widow and her children can earn *ninepence*! In wet or windy weather the most strenuous exertions scarcely produce sixpence, and but for those humble societies which distribute coals and bread amongst such hapless beings, they would literally starve outright.

Now, we have afforded a hint to him who is *ennuyé* and desperate for a "new sensation" how he may rejoice in one if he will take the trouble to go the right way for it. Only let him follow for a day or two the working bees of our social hive, and, if all feeling has not been swamped in the sluggish pool of fashionable *nonchalance*, we are much mistaken if he will not experience some strange "visitings of conscience" before his walk is done. Should he be desirous of novelty of action, as well as of sensation, of something to do as well as of something to feel, why then let him devote part of his idle time to the good of his fellow-creatures by thus following the progress of the arts and of human ingenuity, only that they may endeavor to lessen the sufferings which they bring with them in their train. They are many in number, often dreadful in character, and present a wide field of action for the philanthropist who would read aright the history of the *real martyrs of the age*.

#### THE LUNACY QUESTION.

Although we find it difficult to accord to the noble Earl, the Chairman of the Lunacy Commissioners, the authority he appears to claim on questions that strictly pertain to Medicine, we cannot deny that in his evidence before the Committee of the House of Commons he has thrown a most useful light upon many important points concerning the administration of the Lunacy Laws and the care of lunatics. It is, above all things, useful for a profession to hear from time to time, through laymen of independ-

ence and peculiar opportunities of observation, in what light it is regarded from without. A profession is, of course, apt to form for itself a standard of its own. It with difficulty appreciates, or often unwillingly recognises, the estimation it is held in by the world. But these external opinions, formed as they are from a different point of view, are necessary to correct the purely professional standard. The relation of the medical profession to lunacy practice is one that especially demands our earnest and candid consideration. Since our corporate influence and much of our individual reputation must depend upon the sentiments entertained of us amongst the public, we ought not to shrink from a resolute self-examination upon those points which give rise to reflections from without.

We have on former occasions felt it our duty to comment upon that objectionable alliance with commerce which is involved in the existing system of conducting private lunatic asylums. There is no difficulty in tracing to this alliance all the discredit and all the distrust with which the profession is regarded in its relations to lunacy practice. It reflects injuriously upon the whole body. It has been made the ground for some of the most obnoxious propositions that have been brought forward either in the Bills before the House, or in the discussions before the Committee. It is vain for that section of our body which is engaged in this commerce to resent as an indignity the suggestion that, because its members derive a profit from the board and maintenance of lunatics, they are therefore biassed in their duty as professional men. The world will, in spite of all protestations, draw its own inferences. It will not judge two men who engage in trade by different rules, because one may happen to be also associated with an honorable profession. Rarely can we hope to make a successful appeal against a public judgment of this kind. In some instances, unquestionably, that judgment may be wrong; but in others it is as unquestionably right. The latter instances are held sufficient to justify the condemnation of the system; and we may say, looking at the matter from a professional point of view, that if certain of our brethren choose, or feel it necessary, to place themselves in an ambiguous position with reference to trade, the profession at large, which is compromised by their conduct, has a right to feel aggrieved.

We believe that there are many medical practitioners who are imperfectly aware of the nature and extent of the traffic—for such we must call it—in lunatics. The following is an extract from Lord Shaftesbury's evidence:—

"I have this morning received a letter from a medical man of great experience in insanity, and he confirms all I have ever heard about the treatment of private patients. He says that several of the London physicians practicing in lunacy conduct a regular trade in the supply of attendants to medical men and others, and they pay them a yearly stipend, and support them when they are not employed; and when they are employed, the physician takes from two-thirds to three-

fourths of the attendant's fees for his own profit. The attendants thus employed frequently take strait waistcoats and other means of restraint with them, as a part of their outfit; and they too often apply those means of restraint with or without medical sanction."

And again,—

Q. 346. "A medical gentleman, in one instance, has as many as from thirty to forty houses in which he puts his attendants, and when a patient is brought under his care, as a single patient, he is consigned to one of those houses: and it must be remembered that there are two parties to receive profit in that case, that is, the physician, and the attendant who has the charge of the patient. The attendant is the person who generally receives the patient into his house, and has himself to furnish the house; and, therefore, the medical man having the charge, is able to say, 'This is not my house,' and in fact it is not; but it is his man's."

And,—

Q. 363. "In the district of St. John's-wood there are many houses in which single patients are taken, and these houses are occupied by persons who may be considered as part of the staff of some great physician, who *superintends* all these houses. Then it is stated that these men are put into these houses which they maintain at their own expense; but then the physician (is there no other designation for the man who engages in this sort of speculation?) recommends patients into those houses."

Q. 365. "And the physician who sends the patient there takes a portion of the profit made by keeping him?—Yes, so it is said."

Q. 366. "Does your Lordship believe that to be the case to any very great extent?—Yes."

Would that we could say, No! Does Lord Shaftesbury libel the profession? Are these allegations true; and is it still contended that the keeping of lunatics is not a trade, but an occupation worthy of the high calling of a physician? Are we called upon to believe that any one physician, being, perhaps, the proprietor of one or two large private asylums besides, can bestow adequate and conscientious *medical* attendance upon thirty or forty isolated lunatic patients thus farmed out in separate houses? And is our faith to go yet further, and acknowledge that the keep of lunatics in and out of asylums is a strictly professional avocation, not at all tainted by the unholy compact with trade?

Now let us hear the exposition of Lord Shaftesbury of private asylums:—

Q. 494. "It is the result of very long experience in these matters that a large proportion of the difficulties in legislation, and almost all the complications that we have to contend with, or to obviate, arise from the principle on which these licensed houses are founded. The licensed houses are founded upon the principle of profit to the proprietor, and the consequence is, that any speculator who undertakes them, having a view to profit, is always eager to obtain patients and unwilling to discharge them; and he has, moreover, the largest motive to stint them in every possible way during the time they are under his care. I know that when I have urged arguments of this kind, I have been told that I entertain most undue suspicions of that great profession (the medical) I have no suspicions of them as medical men; but my sus-

picious are of the *medical men only when they are proprietors of lunatic asylums* into which lunatics are taken for profit. I am perfectly ready to admit that there are some of the best men in that department of the profession that one can meet with."

We do not think the objection could be more fairly stated. The medical proprietor can scarcely complain if the public analyze his composite character, and, resolving it into its components, shall assign to each its attributes. What are the logical consequences of this state of things? It cannot be otherwise than that legislative and administrative checks should be devised to counteract what is believed to be the vicious tendency of the system. One of the checks proposed—one that has given especial offence—is, that proprietors of licensed houses are to be disqualified from signing certificates of insanity. This Lord Shaftesbury considers to be "a very important clause." He is afraid that men play into each other's hands: thus,

"A medical man signs a certificate for the purpose of getting an affluent patient into some friend's house, and the friend repays that by signing a certificate for another affluent patient to go into the other's house."

Now, we presume that neither Lord Shaftesbury nor any one else accuses medical proprietors of deliberately signing a false certificate that shall consign a sane man to an asylum. We hope and believe such an atrocity has never happened. But that there should be the semblance of a groundwork for so horrible a suspicion in the public mind is, we repeat, an injury inflicted upon the whole profession by the false position in which some of its members are placed.

Regarding this difficult question from the broad and independent professional point of view, we say, then, that we shall rejoice to see a clear and impassable boundary raised between the medical care and the custody and board of lunatic patients. We shall hail with unfeigned satisfaction the progress and final complete establishment of that system of treating private patients in public institutions which now works so well in Scotland, both for the public good, and the honor and dignity, if not also for the better profit, of the medical profession.

## INAUGURAL ADDRESS AT GUY'S HOSPITAL.

A profession which, like that of medicine, interests itself in the welfare of every individual of the human race, is especially bound to cultivate friendly relations with the members of other professions and of all grades of society. Whether we regard that branch of our duty which consists in the extension of the science of healing, or that which consists in the application of science to the alleviation of suffering, we shall equally feel our efforts obstructed and our success impaired by a too exclusive and self-involved method of study. In these days, more than ever before, the influences, physical and

moral, of men upon each other, tend to complicate and increase the causes of disease. As a consequence, it becomes increasingly necessary for the physician to enlarge his intercourse with the world, and to draw from every source that knowledge which is essential to the full discharge of his mission. This is the more necessary now, when medicine is no longer curative only, but preventive also. The administrative functions connected with medicine, especially with public medicine, are vast and increasing. These functions supply at once the most desirable and the most convenient opportunity of associating the lay and the professional elements of society. We have on a recent occasion expressed our satisfaction at the union of noblemen, magistrates, and other members of the community with the medical profession in the administration of the Lunacy Laws. We are convinced that by this co-operation the best interests of the insane are promoted, and that the labors of our professional brethren are materially facilitated. Occasionally, indeed, we may be disposed to complain that our lay friends are slow to adopt the suggestions of science; that they are sometimes a little obstructive, and sometimes treat their medical coadjutors a little arbitrarily. But then the modesty that befits science will suggest that we may not be always right; and certainly it is seldom right, and never wise, in this country, to urge practical applications of science for which the public mind is not duly prepared by a rational conviction. So soon as science has reached that point where it admits of a new and useful application, it also admits of being so explained and demonstrated as to recommend itself to the judgment of the educated classes; and arrived at this stage, we have rarely lacked their hearty support.

But it is not less desirable to associate the lay element in every part of our professional labors. We believe that the teachers of medicine especially value the importance of that association in the great and fundamental work of medical education. The connexion of lay governors of hospitals with our medical schools has many and varied advantages. Influential members of the general community are thus led to form a more accurate conception of the extent, nature, and beneficial applications of medical science, and are thereby prepared to advocate the cause of the profession with knowledge as well as sympathy. They become acquainted with the personal career of the more meritorious students, and offer a great encouragement to laborious study by the material aid they are often able and willing to lend in the advancement of industrious officers. There are few greater ties amongst men than that engendered by the habit of working together for a good end. This bond is a source of happiness; of respect and of strength of the most enduring kind. It is one that the medical profession ought carefully to knit with the various elements of society throughout all the stages of its action.

A most agreeable and valuable example of the benefits of this connexion is offered to the profession in the admirable address given by Mr. Turner, the treasurer of Guy's Hospital, at the opening of the last winter session in that celebrated institution. The hearty spirit of appreciation of the duties and claims of our profession that breathes throughout this discourse could only have arisen from familiar intercourse and co-operation with able teachers and industrious students. With a clear sense of his position, Mr. Turner rightly observed that his appearance in a chair which is usually occupied by one of the medical staff required no apology, although it might call for some explanation. Admitting that, as a general rule, it might be the more convenient course to open a medical session by an address from a medical teacher, he thought there were reasons why this course might now and then be departed from with advantage. The medical school of Guy's, for example, with its museum, theatres, library, and other buildings, were constructed, and are maintained, out of the funds of the hospital, which are administered by the governors. It is not without grace, therefore, that the head of that body should come forward to welcome the students at the commencement of their career in an institution scarcely less an object of interest and pride to them than to its medical friends. Nothing ought to be more grateful to us than to hear from the lips of a man who so well represents the education and feelings of his class as Mr. Turner, that the governors are not insensible to the reciprocal advantages which the patients derive from the presence of students amongst them—not only through the direct aid afforded by such of them as are actually engaged in their relief, but also through the watchfulness and intelligence of those who are simply employed in examining their symptoms and observing their progress. It is the best security for the establishment and authority of true medicine against the petty but insidious attacks of charlatanism, thus to make men participate, as it were, in the diffusion of sound knowledge, and take an interest in individual members of the profession. It is no mean satisfaction to be assured that the governors are alive to the advantages conferred upon the country at large by that numerous body of practitioners who year by year leave the hospitals, and who disseminate through all parts of the British territories the knowledge, the experience, and the skill which they have there acquired.

There is also an advantage in hearing from an independent observer what opinions he may have formed upon certain questions as to the best modes of imparting instruction. We doubt whether the dispute as to the relative merits of reading or oral instruction has often been more clearly decided than by Mr. Turner. He says the popular cry is against *over-lecturing*. There is some foundation for it; but, he continues, the cry is so loud, and it is naturally so agreeable

to the ears of a student, that there is some danger of its leading to the undue neglect of one of the most important instruments of medical education. There can, indeed, be no doubt that if a student should devote himself to the lecture-room, to the sacrifice of dissection and of attendance in the wards, he would commit a grievous mistake. But this Mr. Turner believes is not a very common case; a diligent student will generally find time for *all* his duties. Of the only two means by which the students of our age can appropriate to themselves the stores of knowledge which have accumulated in the ages that have preceded them—namely, books and oral instruction,—indispensable as both are,—there can, he says, be little doubt that oral instruction is the most important. It is not merely that the information so communicated is the most fresh, that it gives the hearer the benefit of the very last discovery, that it imparts to him the results of the most recent investigation; it is not only that the living book (as the lecturer may be called) can apply himself to the explanation of the diagrams, or models, or dissections which he places before the student, with a particularity and completeness which his inanimate colleague, though directed by the happiest and most lively pen, can never be made to approach;—but, what is most important of all, the opportunity afforded to the teacher of catechizing his pupils is the most efficient means of awakening them to a knowledge of their own weak points.

We feel constrained to say, that we believe the profession, our schools of medicine, our students, and the public would gain if the example set by Mr. Turner, of giving the introductory address, were followed pretty frequently for the future. The benefit of thus exchanging lay and professional ideas would be great; and fairness seems to suggest that our lay friends, who have long been invited to attend these addresses as auditors to be talked at by ourselves, should now and then have the opportunity of telling us what they think of us in return. It would do good to us all; and Mr. Turner is justly entitled to the respect and gratitude of the profession for the brilliant example he has placed before the lay governors of great endowed hospitals.

## ORGANIZATION OF THE INDIAN ARMY.

The Commissioners appointed to consider the organization of the Indian army have recently issued their report. It offers to us some points for discussion, which intimately relate, not only to the political power and welfare of Great Britain, but also to the sanitary condition of that vast body of men who must be maintained to protect our possessions in the East. If we take the most extensive and important of the three Presidencies of India—viz., that of Bengal—we find that in 1857, the year of the outbreak of the revolt now terminating, the military force maintained in that Government amounted to

about 152,000. This number was made up of 16,000 troops of her Majesty's regular army, 6000 Europeans of various arms, under the enlistment, and in the pay of the East Indian Company, and who never served out of India, and of 130,000 regular and irregular native or Sepoy troops, or the "native army." Hence the native army was six times more numerous than the European army. The result was that, an opportunity offering, an attempt was made by the former to destroy the latter, an attempt, however, which proved, on the contrary, self-destructive. In the readjustment of our political and economic balances in India, one of the main problems is, of course, how best to organize and maintain such a military force as will exempt us for the future from a repetition of such an attempt, and which force shall be at the same time of the least expensive and least wasteful character as regards the health and efficiency of the men. Of these two questions of this important problem, the latter more particularly belongs to our own province; but since it is closely allied to the former one, we shall preface our remarks upon the topics of sanitary considerations by a few observations upon the organization of the army.

A question for grave consideration is—What should be the strength of the future Indian army in the Presidency of Bengal? Formerly, as we have seen, it was 152,000 strong. The Commissioners are of the opinion that this *strength* will be sufficient for the future. If so—the reply seems to arise involuntarily—why was it insufficient for the past? Because the relative numerical proportions of its three elements was erroneous. Hence the Commissioners advise the European force to be hereafter stationed in Bengal to consist of 50,000, instead of 22,000, to which might then be added double the number of Sepoys. Before, as we have shown, the proportion was six natives to one imported soldier, whereas for the future it would be as two only to one.

Another question now arises, in the solution of which the Commissioners are not unanimously agreed. The old army was made up of three divisions—namely, of Royal troops stationed in India for duty in that country in pursuance of the ordinary tour of foreign service; of the Company's troops, whose service lay alone in the Indian empire; and of the Native or Sepoy army. Of what shall the new army be composed *quoad* its *European* elements? Should the 50,000 men required for Bengal be supplied in regular routine from the Royal army, as are, for example, the garrisons of Gibraltar and Bermuda; or should the bulk of them be raised for service in India exclusively, like the old Company's contingent of 6000 men? The majority of the Commissioners advocate the first plan, whilst the minority bring forward some very good reasons for the adoption of the second method. One of the witnesses—MR. RANALD MARTIN—examined by the Commissioners (and



which witness is in authority second to none on questions connected with the hygiene of the Indian army) does not consider it desirable that the army of India should be composed exclusively of troops of the line simply taking that country as a part of the regular tour of service. Mr. Martin points out with much force that the British soldiers who are debilitated by service in the East, or who have contracted its severer diseases, are found to suffer from the cold of Europe on their return, and that the mortality amongst them for the last three years after their return is in excess of that regiment upon home service. When invalided, soldiers from India mostly prefer settling in the Australian colonies, on account of the warmth. Mr. Martin, taking all things into consideration, is of opinion that the army of India should be composed principally of British troops raised for service in the East only, having a certain proportion of model battalions, of the line at each presidency; and all to be light infantry. These model battalions, interspersed throughout the great military station of the East, would constitute examples of the best interior economy and military discipline of Europe, and forms the patterns upon which all field movements and musket exercises should be framed. By this means the Indian army proper would be kept at all times in the highest state of discipline and efficiency; for, says Mr. Martin, "there might indeed be reason to apprehend that one and the same army, if scattered over the immense superficies of Hindostan, might in time relax in its discipline and become listless, if competition were withdrawn from it." It is proposed that the soldiers for service in India alone should be raised, as heretofore, within the United Kingdom. Such men,

"Entering on the duty with free will, well treated by the State, and tutored into the better traditional habits of the country by the old soldiers of the Indian regiment, and under direction of experienced and able officers, the position of the men would at once become one of comfort and contentment; and when partially worn out they may be employed in garrison and police duties with enhanced pay, or to be encouraged to settle with their families on the mountain table-lands of the country, should colonization be determined upon in the East Indies."

Referring to the necessary influence of a tropical climate upon European constitutions, the gentleman we have just quoted is of opinion that there will always be in the regiments permanently stationed in India an amount of what in a military sense we suppose may be called *relaxation*. To counter-balance this, it will therefore always be advisable that a few Royal regiments should at intervals come from home, and which might be held up as models for imitation. But this being admitted, the chief proposition must be maintained—the bulk of the Indian army derived from Europe must be kept for service entirely in the East. A local army of this kind, knowing—as Colonel Burlton suggests—that its officers and men are to reside in

India, and to make it a sort of abiding-place for their lives, would be likely to become more intimately associated with the natives, more acquainted with their manners and customs, and more agreeable to them, than regiments constantly relieved backwards and forwards from England. In a late leading article of *The Times*, the opposing arguments of the question before us were well weighed. It was shown that the advantages derivable by England from the Indo-European army being all composed of Royal troops would prove small and precarious, whereas the benefits to be realized by India on the opposite principle appear to be certain and considerable.

"At any rate (said the writer), we do not see how the necessity of some special training for Indian service can be entirely disregarded, or how this obligation can be satisfied, if the longest period of European service in India is to be a dozen years. It is admitted that there is a place for a line contingent; in fact the suggested proportion of one-third out of an aggregate of 50,000 men would allow of exactly as many troops of the line in Bengal for the future as have been stationed there hitherto—namely, some 16,000 or 17,000 men. The only question is as to the remaining 35,000, and we are of opinion that by making these *local* troops we should be securing the *maximum* of probable advantage."

It is but fair to the eminent Indian medical officer to whom we have before referred, to point out that, in advocating that more than a moiety of the Indo-European army should be of a permanent character, he proceeds upon the supposition that the depôts of the troops or main stations of the army, should be for the future, located in the comparative healthy mountain or hill districts of India. He admits that if the Europeans are to be retained on the pestilential plains, their very frequent relief from home will indeed be required, if such men are expected to appear afterwards as efficient soldiers in Europe. This touches, however, upon a question which we shall particularly consider at our next opportunity.

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## Medical Annotations.

"Ne quid nimis."

### THE NEW PILLAR OF THE STATE.

HYDE-PARK CORNER is the choice rendezvous of those who love to look on a lord, or gaze their full on superb women of the *beau monde*, rolling by in perfectly-appointed carriages, with strawberry leaves on the pannels—the real leaves of the Book of Beauty. The guardian policeman of the place warns off orange-boys, acrobats, orange-girls, and all such vulgar intruders, and prevents common cabs from driving through the sacred archways on either side. Here the Queen passes by, whenever, in the peculiar language of the "Court Circular," she "takes an airing," and every afternoon the "upper ten

thousand" crowd this favorite spot on their way to inhale the balmy fragrance of the fifty acres of foul water on the banks of which they take their daily walks or rides.

The bewildered foot-passenger had cause to be grateful when, some time ago, a kindly official placed a small paved place of refuge in the middle of the road, fronting Apsley House, where he might take breath whilst crossing amidst such a jostle of carriages with impulsive coachmen, and high-stepping horses with indifferently good riders. For some weeks this little resting-place has been covered in by a mysterious tarpaulin tent, such as the Londoner is accustomed to see invade the street whenever anything is wrong underground. It might be telegraph wires, or gas, or water, or sewers; or, in fact, anything which is included under the usually satisfactory explanation of "something wrong with the pipes." But the thing at Hyde-park Corner was none of these. There was a mystery about it, and conjecture was busy. It could not be sewers, as the stink of the Serpentine would make the odour of a drain comparatively refreshing to passers by. It might be a steam-engine to work the wings of Baron Marochetti's "Angel of Victory," set up in Apsley House gardens; as it is evidently an anatomical impossibility that the muscles of the figure could accomplish the task unaided. It might be a drinking fountain; but the fact of Lord John Manners being at the head of the Board of Works, rendered such a sensible undertaking improbable. It might be a statue of his lordship, set up by himself in anticipation of the time when posterity should begin to appreciate his merits. Finally, a reflective omnibus conductor summed up the whole question, by concluding that it was "going to be summut."

The thing is now unshrouded, and the mystery is solved. And, since the time when that disreputable person whom Moore made famous as the "Veiled Prophet," revealed his ugliness to the world, we do not believe a more offensive and more insulting spectacle has been uncovered to a curious crowd. Had the wildest lunatic employed his addled brains on the work, he could scarcely have produced a more tasteless and incongruous enormity than that which now disgraces Hyde-park Corner, under the immediate sanction, we suppose, of Lord John Manners, the late head of the Board of Works. A letter in *The Times* thus admirably describes the thing: "A gaudy glass column, obscenely splendid by day with gilding and the lowest class of advertisements, and by night a pillar of fire, such as of old led the chosen people through the desert, and such as will now frighten any decent cab-horse out of its wits. Strong recommendations to hurry to the Casino and to Cremorne are thereupon intermingled with the manifestoes of antibilious-pill makers, and with the mysterious suggestions of the 'Silent Friend,' the place of honor on the western front being conceded to the questionable merits of

Kahn's Venereal Museum. Only the upper portion of the pillar—the advertising portion—is lighted up at night. The inevitable consequence is, that the entire space intended for the protection of the old, the infirm, and the young, while crossing Piccadilly, is permanently occupied by persons consulting the hackney coach fares—looking for the day of the week or month, seeking the address of the beadle or tax gatherer, or pondering whether they had better have their families' likenesses taken at Messrs. Chisle'em's studio for a shilling a head—take them to dance at Cremorne—hear Kahn's full-flavored lecture—dose them with antibilious pills, or blow them out with revelenta Arbica." Not content with insulting the name of the Queen, by making her the protectress of every beastly quack-medicine-vender who will pay three halfpence for the privilege, it is now attempted to make the highways of the people subservient to a similar nefarious traffic. We suppose that in consideration of this delicate attention, the members of the Board of Works are on the free list of the "Venereal Museum," and have presentation copies of the "Silent Friend."

If this deliberate outrage on good taste and public decency is tamely endured, it is a pity that the brilliant idea thus embodied should not be fully worked out. Advertising tailors might be allowed to clothe the statues of London in cheap garments, and paint the price lists on the pedestal. The heralds could carry advertising boards in the place of their equally stiff embroidered coats. The figures in the Houses of Parliament, and lions on the pinnacles thereof, might bear scrolls, inquiring, in mediæval letters, if you "bruise your oats." And the centre of the royal standard, as it floats on the breeze, might aptly direct attention to somebody's "Queen's pattern spoons," and so make us ever hold in dear remembrance, the Government officials who could sanction this new mode of advertising.

#### CHLOROFORM AND ITS DANGERS.

A PAPER has been recently addressed to the Academy of Sciences of Paris by Dr. Despies, on "Chloroform as an Anæsthetic," in which he describes what he amusingly calls a method of his own for removing the suspension of the respiratory functions, which is one of its effects. The theory and the method are none other than those commonly accepted and practised here. Suspension of respiration is caused either by the voluntary occlusion of the windpipe while the senses are still awake to the unpleasant character of chloroform vapor; or, in a later stage, by the involuntary occlusion of the glottis from spasm; when in the last stage by its mechanical closure from the tongue falling back: all this we find in our text-books. M. Despies says, "I obviate the suspension of respiration by a *method* which consists in introducing the index finger into the pharynx down to the base of the epi-

glottis, bending it in the shape of a hook, and thus raising the base of the tongue, and bringing it forward in the direction of a line supposed to be drawn from the base of the epiglottis to the upper part of the symphysis of the chin." More briefly, he draws the tongue forward, as other people do under the like circumstances. Those who are most accustomed to the administration of chloroform will assent to the statement that the respiration is a guide of at least equal importance with the circulation, and the eye and ear should be alike carefully on the watch to observe the changes from the imperceptible breathing of normal habit to the deep somnolent inspiration of anæsthesia, or the hurried, convulsive, and catching movements which indicate the necessity for greater dilution or withdrawal of the vapor. To free the mouth from saliva, and to draw forward the *base* of the tongue to which the epiglottis is attached, are amongst the first and easiest indications when the respiration gives note of danger or difficulty.

#### EBRIETY BY IMPERIAL DECREE.

The deplorable condition of Russian serfs is rendered yet more lamentable by their habits of drunkenness. Raki is the acknowledged curse of the country. It converts the serf into a wild beast; it destroys all family happiness; it brutalizes, ruins, and finally kills him. But, on the other hand, it is a source of enormous revenue to the Russian Government, which levies a heavy duty upon this spirit. Many hundred millions of roubles are brought to the State treasury from the pockets of the people by the tax upon raki; and therefore, when the Roman Catholic clergy preach a crusade against this destroyer of the happiness and prosperity of their flock, the administrators of the Russian exchequer have something to say to them, and that of no friendly character. If the crusade prospered, drinking would cease, or would be diminished. With the cessation of drunkenness, there would occur a cessation for the demand for raki; and if raki were no longer largely consumed, the administrators of the exchequer would find themselves at a loss for funds. That is logical. True, the happiness and well-being of the people would be multiplied perhaps by a hundred-fold, and a great source of misery and disorder would be dried up; but what of that if the source of funds to the exchequer were simultaneously destroyed. The civil authority therefore announces, that the minister of Finance, having received information that the Catholic clergy of the district of Kovno have, without the knowledge of the Government, entered into a brotherhood which occasions a loss to the income of the treasury, requests the Military Governor of Wilna and the General Governor of Grodno and Kovno to forbid the formation of such brotherhoods in the districts confided to those governors. This brotherhood, thus interdicted, is no other than a

temperance league. The means employed are of that energetic character which are not uncommon in the hands of the Catholic clergy. They have preached sermons in favor of abstinence from strong drinks, and have administered the oath from the altar, threatening deprivation of religious rights as a punishment of relapse from the oath. The civic and rural police are enjoined strictly to watch and prevent the formation of such associations, and the clergy will thus be obstructed by all the power of Government organization in "restraining their parishioners from drunkenness."

The Emperor Alexander is believed to be sincerely anxious to ameliorate the wretched condition of the Russian serfs, and it cannot be supposed that he will permit this infamous opposition to be offered to purposes so laudable, and so conducive to the prosperity of the people and of the empire. The edict does not issue from central authority; nor can we believe that it will receive approbation in the highest quarters. It has been justly hailed in Europe with the expressions of the most utmost condemnation, since it openly avows an utter disregard for the best interests of order and morality, when placed in competition with the *monetary* interests of the exchequer.

#### ELECTRICITY AS AN ANÆSTHETIC AGENT IN DENTAL SURGERY.

At a meeting of the College of Dentists, on Tuesday last, at the Board-room in Cavendish-square, the report of the committee appointed for testing the power of electricity in alleviating the pain caused by "tooth-drawing" was read by Dr. Richardson. The following is an abstract of the document:—

"Sixty-eight cases of extraction were recorded, in sixty-five of which the anæsthetic value of electricity was tested; in fifty-five of those the intermittent current was employed, and in ten the continuous. In these experiments every possible modification was introduced. The poles of the batteries were reversed in different cases; the force of the current, as indicated by the sensations of the patients, was varied; and every necessary precaution was made to secure insulation of the operator. In a large proportion of these cases the results were negative. In some the application of the current produced additional pain; in others, less pain was produced; and, in five cases, there was direct evidence of relief.

"In cases where relief was most apparent, the committee believed that the insensibility was general, the patient being at the time of operation in a state of syncope. In cases where it was expressed that the pain was less than had been experienced on previous occasions when no electricity was used, the committee consider that the apparent benefit was traceable to four causes—diversion of sensation, less difficulty in extraction, syncope more or less

marked, and differences in method of operating.

"Cases in which pain was increased by the current where those of recent inflammation of the periosteum, or where abscess was present. In regard to the direction of the current of electricity, its force as computed by the sensations of the patient, the position of the poles, and the different forms of electrical apparatus and currents, the committee could arrive at no affirmative results; differences in these respects indicating in the main no specific differences in effect.

"In a final point the committee were unanimous, that in not one instance did any member observe the nearest approach to local anaesthesia. At the same time, the members were of opinion that the intermittent current was allowable in certain cases as a means of producing a diversion of sensation. But as, in a scientific point of view, the electrical current could not be accepted as an anaesthetic, the committee had no data on which to recommend any special electrical apparatus, nor any particular method of applying electricity in dental operations."

It has often been remarked that an individual regarded in a private capacity on the one hand, and as a member of a public body on the other, frequently presents himself under two different aspects. Thus, at the meeting in question, Dr. Furland said, that though he, as one of the committee, had signed the report, his private practice reversed his opinion. He had that morning extracted seven teeth from a lady, and she declared that she felt no pain. We have, however, in this instance, an explanation of the circumstance. The Doctor went on to observe that he must say that he gave no time for her to reply: as soon as he had fixed the battery he placed his foot on the board and asked whether she felt any pain, and—"sharp's the word" with a dentist—before an answer could be returned, the tooth was out!

#### EVIL OF SMOKING TOBACCO AND ITS NATIONAL COST.

A controversy is just now going on in Glasgow between Mr. William Logan and Dr. McLeod as to the utility or the evil of tobacco-smoking. Mr Logan uses some very forcible argument against the employment of the "weed." He says he had lived

"In London, Leeds, Rochdale, Bradford, and Glasgow, for upwards of sixteen years amongst the humbler classes; and whilst he had met with thousands of inveterate smokers, he never found one of them attempt to defend smoking, but they almost invariably referred to it, of their own accord, as a 'bad habit,' and regretted that they had been foolish enough to learn it. The only occasion on which he had seen tobacco used with apparent advantage was when visiting, some eighteen months ago, the inmates of the Lunatic Asylum at Edinburgh, where the in-

telligent medical superintendent gratified about a dozen of the unfortunate inmates by quietly dividing amongst them about half an ounce of tobacco."

Mr. Logan alleges that tobacco creates thirst—an assertion which is open to objection; and that its use frequently leads to that of intoxicating drinks, which is not necessarily the case. But he hits the mark more closely when he says—

"Much time is lost by smoking. It is supported at a great expense. Many working men spend more upon tobacco alone than would, besides providing them with more comfortable dwelling, enable them to send their children to school, and purchase a newspaper. In an article in the *Scottish Review*, entitled 'Liverpool, its Smoke and Ashes,' it is said—'At the time of our visit to Liverpool, there stood under the sheds no fewer than sixteen thousand large hogsheads of tobacco, and each of these paying on an average a duty of £200, yielding in all a revenue of £3,200,000! and all this ending in smoke, so far as the real comfort and social and intellectual improvement of the people are concerned.'"

#### Foreign Department.

##### CONTAGIOUS NATURE OF THE SECONDARY SYMPTOMS OF SYPHILIS.

M. Ausios Turenne, the originator of syphilization, had, some months ago, induced the Minister of Public Works to ask the Academy of Medicine of Paris the following questions:—

1. Are the secondary symptoms of syphilis contagious?

2. Have the secretions of these symptoms with infants, as far as contagion is concerned, properties different from those they possess with adults?

The Academy appointed a committee, composed of MM. Velpeau, Ricord, Devergie, Depaul, and Gibert, to consider these questions, and give in a report, which has been read by M. Gibert, at the meeting on the 24th ult. It would appear that M. Ricord desired to be excused from joining the committee, so as to be better able to engage upon the discussion of the report. From M. Gibert's exposition, we find that the committee instituted experiments at the St. Louis Hospital, and have come to the conclusion to propose, that the questions asked by the Minister shall be answered in the following manner:—

1. There are secondary, or constitutional symptoms of syphilis which are contagious. The principal of these is the mucous papule, or flat tubercle.

2. This rule holds good for the nurse and suckling as for other individuals; there is no reason for supposing that, with children at the breast, the secretion from secondary symptom

has properties different from those observed with adults.

As M. Ricord was not present, the discussion was adjourned, and took place at the meeting on the 24th of May when that gentleman yielded to the experiments made on healthy subjects by the reporter, and conceded that some secondary symptoms were contagious.

**INJECTION OF THE CONCENTRATED SOLUTION OF PERCHLORIDE OF IRON INTO THE SAC OF AN ANEURISM.**

M. Debout, well known in Paris by his investigations respecting the effect of such injections, has lately read before the Academy of Medicine the following case:—

A general, aged fifty-eight, and of weak health, presented an aneurism of the upper part of the ulnar artery on the right side. The size was about three inches by two. Twenty drops of the solution were injected into the sac from four different points in varying directions. The temperature of the limb became immediately lower and severe pain ensued. The tumor became hard, and lost its pulsations. From internal causes the patient died four days after the operation, the tumor having diminished to one inch by one-third of an inch.

On examination, after a longitudinal section of the sac, it was found occupied by two clots. One was peripheric, occupied the greater portion of the sac, and was composed of concentric fibrinous layers like those observed in aneurisms undergoing spontaneous cure. In the centre of these layers was the clot produced by the chemical action of the perchloride, this latter clot being continued into the vessel communicating with the sac, and much darker than the layers. The prolongation reached as far as the bifurcation of the brachial into the radial and ulnar branches, and terminated abruptly at that bifurcation. Below the sac, the ulnar artery was empty, and of the usual calibre. The interosseous artery, on the other hand, was contracted, and transformed into a fibrous cord. An aperture in the upper part of the sac seemed to be the result of the puncture made by the canula.

M. Debout thinks that the fibrinous layers did not exist before the operation, or at least not so thoroughly formed as they were found at the autopsy. The practical inferences which he draws from this case are—that the strength of the solution should not be maintained at forty-five degrees, as advised by the late Pravaz, the originator of the method. In his (M. Debout's) case, the twenty-degree strength was used; and he conceives that this strength should be reduced to fifteen or ten, as the innocuousness of the operation is in direct ratio with the lesser density of the coagulating fluid. The following points are especially dwelt upon by M. Debout:—

1. The operation should consist of a single puncture with the trocar, and the introduc-

tion of the perchloride through this single aperture.

2. Pressure should be made on the artery above and below the sac, so as to prevent the migration of the clots.

3. The strength of twenty degrees should never be exceeded, to avoid inflammatory complications.

**A CONVENIENT MODE OF TREATING VAGINITIS AND SUPERFICIAL INFLAMMATION OF THE CERVIX UTERI.**

M. Foucher mentions in the *Bulletin de Thérapeutique* of the 15th ult., that in the above affections, he prefers ointments to injections. In simple vaginitis, he introduces every morning, with the assistance of the speculum, a good-sized pledget of cotton wool, well smeared over with tannin ointment, into the vagina, bringing the pledget in contact with the cervix. By means of a thread tied to it, the wool can be removed by the patient, either in the evening or on the next morning. Every time the pledget is taken off, an injection of cold water, or of a solution of alum, should be used to wash the mucous membrane of the vagina. By a little practice, patients soon learn to introduce the pledget themselves, the surgeon then cauterizing the inflamed surfaces to hasten cicatrization. M. Foucher uses the same treatment for fluor albus with much success; but he tries, at the same time, to modify the morbidly disposed organism with the following pills:—Extract of rhubarb, quinine or extract of bark, steel reduced by hydrogen, of each half a drachm—for forty pills. To counteract constipation, the author has found half a grain of powdered belladonna, given every night in the form of pill, extremely useful.

**CALCULUS LODGED IN THE NASAL FOSSA.**

M. Verneuil read before the Surgical Society of Paris, at the meeting on the 18th ult., the case of a lady, who for the last twelve months had suffered from severe ozæna. By the probe a hard foreign body was felt in the right nasal fossa. This body was long looked upon as a necrosed portion of the lower turbinated bone, and the treatment instituted accordingly. But a piece of it having been extracted by means of dressing forceps, it was discovered that the pathological phenomena were owing to a calculus. Crushing of the latter was resorted to; and after several pieces had been brought away, the patient rejected the bulk of the calculus by the mouth. M. Verneuil referred to an article in the "*Archives de Médecine*" where twelve such cases are mentioned, in all of which the diagnosis had been extremely obscure at the outset. The same surgeon also cited a case published in the "*Transactions of the College of Physicians of Philadelphia*" (November, 1857), contributed by Dr. Hays, in which a lady had suffered from ozæna from childhood. Eventu-

ally the probe dislodged a foreign body, which, on being driven anteriorly by an effort at expiration, was found to be a button, which had belonged to the patient's little brother when they both were infants.

#### NARROWING OF THE VAGINA IN CONSEQUENCE OF THE USE OF THE ACTUAL CAUTERY IN UTERINE COMPLAINTS.

M. Anselmeir publishes, in the *Gazette des Hôpitaux* (June 16th, 1859), three cases of such narrowing, all caused by the use of the actual cautery to the neck of the uterus or vaginal canal. In the first case, the passage was so diminished in calibre as to prevent the escape of the menstrual fluid; in the second, it was necessary to free the bands formed across the vagina to allow of parturition; and in the third, sexual congress was extremely difficult, in consequence of the use of the actual cautery, the husband being very lewd in his condemnation of the operator. Gradual dilatation, after incisions, was successfully put in practice by M. Anselmier in the first two cases; and simple dilatation, with a small bivalve speculum in the third.

#### CHLORIDE OF SILVER IN EPILEPSY.

Dr. Piccardi (*Giornale della Scienza Med. e Gaz. Hebdomadaria*, May 1859) recommends this salt in epilepsy, and mentions the case of a man of forty-four years, who was cured after having suffered from epilepsy for sixteen years. Four grains daily were given at first, and the dose was gradually increased to thirty. The treatment was continued for about four months, during which the patient took about two ounces of chloride. No more fits occurred, and they have not since reappeared, the patient remaining under observation for about two years. If other successful cases confirm the efficacy of the chloride of silver, it will soon be extensively used; but the risk of giving the skin a permanent grey color should be seriously taken into consideration.

## New Inventions

IN AID OF THE

### PRACTICE OF MEDICINE AND SURGERY.

#### AN IMPROVED CHLOROFORM INHALER.

"The advantages of this inhaler consists," it is stated, "in the control which the operator possesses over the quantity and potency of the chloroform administered. It is very portable, simple in construction, easily managed, and produced at a trifling cost."



The mouthpiece consists of a deep shell of metal, with padded sides. The neck, or tube, is of brass, and unscrews to admit the insertion of a piece of inflexible tube when the inhaler is used for operation about the head and face.

The body of the apparatus is of metal, and contains a fluted cone, upon which the sponge rests. The perforations in the cone free the sponge from any excess of chloroform.

Under the plate at the top of the cylinder is a rotating table, containing a well, divided into two compartments, one open to the cylinder, the other to the external air, both communicating with the mouthpiece, so that when the button rests midway between the words, "air," "vapor,"—as shown in the accompanying woodcut,—the chloroform is diluted with equal parts of free air. These proportions are increased or diminished at the discretion of the operator, by simply moving the button from right to left, or *vice versa*. The vapor, both in quantity and potency, may be regulated with the utmost exactness. The improvement is due to Mr. T. P. Salt, of Birmingham.

#### NEEDLE FOR METALLIC SUTURES.

To the Editor of THE LANCET.

SIR,—I enclose for insertion in your columns a woodcut, representing a needle I have found advantageous when employing the metallic suture in the closure of surgical wounds.



It will be seen at a glance that it resembles in shape the ordinary sewing needle, but is flattened and grooved for about a third of its length. In the centre of the grooved portion are drilled two round holes (about a quarter of an inch apart) of sufficient bore to admit the passage of the wire intended to be used. In arming the needle, the wire is first passed through the hole at the greater distance from the point, then carried to the other, similarly inserted, and the end, which ought not to exceed

the eighth of an inch in length, turned back wards, and pressed into the groove.

When threaded in this way, no portion of the wire lies above the plane of the instrument, so that no obstruction is offered to its passage through the integument, and the wound inflicted retains its incised character.

In the ordinary sewing needle, the size and form of the eye is such that the metallic suture—which, of necessity, is doubled for a short distance—is very apt to become twisted and distorted, and thus prevents its easy application.

Two ingenious modifications have been devised by Mr. Lister, of Edinburgh, and Mr. Murray; but, I believe, the one here represented—which is made by Mr. Weiss, of the Strand, and Mr. Matthews, of Portugal-street, at trifling cost—will be found of general value, but especially when dealing with more than usually delicate and elastic tissues.

I am, Sir, your obedient servant,

P. C. PRICE, M.R.C.S.

Green-street, Grosvenor-square, 1859.

### NURSING APPARATUS,

INVENTED BY MR. CHARLES E. WRIGHT.

This is an ingenious invention for nursing infants up to the seventh or eighth month, by which the arms of the nurse are left at liberty, while the child, it is maintained, is kept in a position more favorable to health and development than in ordinary nursing. The accompanying woodcut renders the invention easily in-



telligible. The weight of the child is thrown upon the shoulders and back of the nurse instead of upon her arms. The evils of arm-nursing have been insisted upon by Dr. Andrew Combe, Sir James Clark, Dr. Dewees, Mr. Peter Hood, and by Eberle, Bandelocque, Struve, and many other authorities. In ordinary life, the child is constantly put into the sitting posture before the bones and muscles of the spine are strong enough to support the head. This position also tends to injure the thoracic and

abdominal viscera. Mr. Wright's invention promises to be especially useful in the case of the poor; its cost may be reduced to a very low price, such as would bring it within the reach of all classes. It not only aids in nursing the infant during the day, but forms a sleeping place at night, thus removing the evils and risks attendant on the habit of keeping the child in bed with the mother. In the case of a poor woman with two or three children, this apparatus would leave her free to carry the young infant, and to lead her other children, or to occupy her hands in household matters. In the case of the more affluent, the nurse would be at liberty to carry an umbrella over the infant in case of rain, or to push a perambulator containing an older child. It is contended by Mr. Wright that not only the nurse would be more at liberty, but that the infant would be better and more healthily brought up by the use of his apparatus. The portable cradle is well adapted for its uses. It may be readily moved to the horizontal or upright posture. It allows the infant to be kept warmer in winter and cooler in summer than by the ordinary plan. In the case of rickety children, it promises to be invaluable. The apparatus contains a provision for keeping the child clean and dry. Any method which tends to diminish the mortality of infants cannot fail of receiving due attention from the profession. The invention has, we are informed, been examined and approved of by Sir Charles Locock, Sir James Clark, Dr. Tyler Smith, and others. The apparatus can be seen at the Polytechnic Institution.

### Miscellaneous Correspondence.

"Audi alteram partem."

#### THE TESTS FOR ARSENIC WITH CHLORATE OF POTASH.

[LETTER FROM DR. LETHBY.]

To the Editor of THE LANCET.

SIR,—I demonstrated, in my last communication,\* that arsenic could be readily discovered in a solution of chlorate of potash by means of all the usual tests; and that, of these, Reinsch's test was singularly unfit for the purpose, because of the solvent action of the chlorine and chloric oxide on the copper employed for the precipitation of the arsenic. I now complete the inquiry by showing that Marsh's test may, with a little care, be made as applicable to the investigation as any other.

There are two methods of proceeding, one is, to evaporate the arsenical solution to dryness, after having added a little carbonate of soda; then igniting in a porcelain crucible, and using the residue with dilute sulphuric acid and zinc, in the usual manner, for the production of arseniuretted hydrogen. The other method is to



treat the solution at once with sulphuric acid, adding the acid drop by drop until about a tenth part, by volume, of concentrated oil of vitrol has been used. When the mixture has cooled, it may be poured upon the granulated zinc, and arseniuretted hydrogen will be at once formed and disengaged. The gas may be recognised and tested in the usual way. It burns with the characteristic flame, and deposits a sublimate of metallic arsenic on a piece of white porcelain held in the flame. It blackens a solution of nitrate of silver, and furnishes an arsenical liquid, from which, after the separation of the silver, the arsenic may be obtained. It gives a brilliant sublimate of metallic arsenic when the glass tube is heated through which the arseniuretted hydrogen is passing. All these reactions are as certain as when the test is applied to a solution of arsenic in distilled water; and they are so delicate that an unskilled operator may easily discover the presence of the sixteenth part of a grain of arsenious acid in an ounce of a saturated solution of chlorate of potash.

Looking at these facts—namely, the facility with which the common tests for arsenic may be applied to a chlorate solution, the delicacy of the reactions, and the certainty of the results—looking also at the fact that every test succeeds but Reinsch's, and that it is open to the double objection of losing the arsenic on the one hand, and introducing it on the other, the following evidence lately given on this subject is remarkable:

"I then applied the tests for arsenic (to the chlorate solution), and *every test I tried was destroyed, and failed to show the existence of arsenic*, owing, as I supposed, to there being something in it; and my tests convinced me that there was something very peculiar about it that I had never met before. I tried Reinsch's process, but I found that it dissolved the copper gauze as soon as I put it into the liquid. I then determined to exhaust this noxious agent, and continued to put in copper gauze until it no longer possessed the power to dissolve it. I then put in a piece of copper, which at once received the arsenic. I was able to decide by these tests that the mixture was chlorate of potash. I found there was of chlorate of potash seven grains to the ounce, and there was a grain of arsenic."

Now a grain of arsenic in a fluid ounce of any liquid is a strong solution, for cold distilled water will only take up about seven grains to the ounce to become saturated, and seven grains of chlorate of potash in the ounce is only a fourth part of the quantity necessary to saturate it. Why, therefore, with such a solution "*every test was destroyed, and failed to show the existence of arsenic*," is a matter that requires explanation, for it is opposed to the very principles of chemistry, and to the experience of the rudest manipulator. Again, it is a question of some little importance how it was determined by Reinsch's test that the chlorate solution contained exactly one grain of arsenic to the ounce, for Reinsch's

test is not suited for such a quantitative determination.

Lastly, there is another question connected with the inquiry which deserves consideration. It is, whether the admixture of chlorate of potash with arsenic will prevent the latter from being retained in the animal system, so as to be discoverable in the body after death? My own experience is, that in every case of poisoning by arsenic the mineral is to be found in the tissues of the liver by the appropriate tests, and this I hope to demonstrate in a future communication.

I remain, Sir, yours &c.,

H. LETHEBY, M.B., Ph.D., &c.

London Hospital Laboratory, 1859.

## ON PARTIAL AMPUTATION OF THE HAND.

To the Editor of THE LANCET.

SIR,—I am induced to forward the following history of a case which was successfully treated at the Southern Hospital, Liverpool, in 1856.

A. B—, aged twelve, rivet boy at Horfall's foundry, was admitted an in-patient, having caught his hand in some machinery. Upon examination, I found severe laceration of all the soft parts, with comminuted fractures of the three metacarpal bones, a compound comminuted fracture of the index finger, and the pisiform and cuneiform bones hanging. I consulted with my friend Mr. Stephen Walmsley, who chanced to be present, and we decided to endeavor to save the thumb and the metacarpal bone of the index finger. Accordingly, I removed the three inner metacarpal bones at their carpal articulations, together with the pisiform and cuneiform bones, getting a very imperfect flap from the integument of the back of the hand. The wound was dressed with the ordinary water-dressing. The whole of the soft parts sloughed, exposing the joints, &c. Symptoms of tetanus appeared, but were fortunately subdued. The parts took on a healthy action, and the wound healed by granulation. The operation was performed without the aid of chloroform, by the lad's desire, who sustained a conversation during the time.

I have had opportunities of seeing this patient many times since, and he possesses good use of the wrist and remaining portion of the hand. Many of my professional friends to whom the case was shown condemned my treatment,—the result, I think, shows with what injustice.

I am, Sir, your obedient servant,

E. G. GARLAND, M.R.C.S., &c.,

Formerly Senior House-Surgeon to the Southern Hospital, Liverpool.

Yeovil, 1859.

## ANOTHER SUBSTITUTE FOR COD-LIVER OIL.

To the Editor of THE LANCET.

SIR,—Some little time since my attention was drawn to this subject. Finding that so many persons objected to take cod-liver oil, in consequence of its disagreeable taste, and its causing

a disrelish for food, I considered that, perhaps, some other oil might have the good effects without the drawbacks above named.

When in Devonshire, some years since, I found that the laboring class on that part of the coast chiefly lived on the *pilcher fish*, and as they appeared to thrive upon it, also that the pilcher contains a good quantity of oil, I determined to try its effects in the treatment of disease. This I have done with very good results. I applied to Messrs. Perrins and Barnitt of Conduit-street, Regent-street, London, to procure me some of the pilcher oil. They obtained the fish, and extracted the oil, adding, by my wish, the iodide of iron, in proportion of two grains to each fluid ounce. I have given this medicated oil in all cases in which the cod-liver oil has been ordered, besides several other cases, such as hysteria, &c., and have found it most useful. It is not so disagreeable to take, does not rise, and I consider it feeds and gives general tone to the system much more than cod-liver oil. It is very easy of digestion, consequently the patient gains strength. In consumption, the night perspirations subside under its use; but in some of my lady patients I have been obliged to lay it aside during the monthly period, as I found it to increase the menstrual flow; it is, therefore, useful in chlorotic cases. I give the pilcher oil in the same doses and way as the cod-liver oil. Seldom have I found it necessary to give the former more than once a-day—viz., every night at bedtime—the last thing. Should any member of the profession feel disposed to try this oil, I trust the same good results will be found as I have experienced.

Hoping to hear a favorable report of the pilcher oil in the hands of other members of the profession through your valuable journal.

I am, Sir, yours obediently,  
M. F. L. ANDREWS, M.D.

West Malvern, May, 1859.

#### ON A RECOVERY FROM THE BITE OF THE COBRA DA CAPELLO.

To the Editor of THE LANCET.

SIR,—As the recovery from a bite of the cobra da capello appears unfortunately to be the exception to the rule, probably a short account of a case which came under my brother's charge in Ceylon, and which terminated successfully, may be interesting to your readers.

A sergeant's wife having been bitten in the foot at Trincomalee, soon after came under treatment, but not before some of the poison had been absorbed into the system, as evidenced by the pulse being imperceptible at the wrist, ptosis, and paralysis of the iris, with profuse diarrhoea. There also soon appeared some purple sordes on the lips, gums, and tongue. The bitten part, which was over the ankle, was excised and cauterized, ammonia, brandy, and other stimulants were administered, and she was fre-

quently marched about for thirty-six hours, at the end of which time she was considered safe.

The *perhaps* hazardous plan of giving large doses of arsenic was not followed, as the absorbed poison itself acted as an intestinal irritant.

I am, Sir, yours, &c.,

St. George's Hospital Library, June, 1859.

M.R.C.S.

#### DIPHTHERIA NOT A NEW DISEASE.

To the Editor of THE LANCET.

SIR,—Should there be a few amongst your readers who yet believe diphtheria to be a new disease, I think that the following most interesting letter, which I have accidentally discovered amongst some old papers, will convince them to the contrary. It is written by Dr. Ash, of Birmingham, in the year 1778, and is accompanied by an abstract of his treatment. Dr. Ash enjoyed an extensive practice in Birmingham, and was well known to be an acute and correct observer of disease. He was also founder and senior physician to the General Hospital in that town; his portrait, by Reynolds, ornaments the walls of the hospital. I believe that Dr. Ash subsequently removed to London.

I am, Sir, yours faithfully,

JOHN GREENE, L.R.C.P. Edin.

Sedgely, June, 1859.

Copy of a letter from Dr. Ash, of Birmingham.

"Birmingham, Nov. 30th, 1778.

"DEAR SIR,—I am extremely sorry that you have got the present alarming epidemic in your own family; for by your minute account it is the same disease that has been too long in this neighborhood, which is a disease *sui generis*, totally different from the *gangrenous*, and indeed every other kind of ulcerated sore-throat; it is a disease of a truly inflammatory nature in the beginning, primarily affecting the mucous membrane of the fauces, and thence extending itself with different degrees of violence in different subjects to the adjoining membranes. It resembles in some subjects the *measles*, but is totally distinct from them, but of the same inflammatory disposition; but seldom, like that disorder, will admit of the lancet. In others it resembles the *febris scarlatina*, attended with exanthematous eruptions in the throat, and may in vulgar English be called the *rash sore-throat*; for these appearances in the throat are not of the nature of ulcerations, but mere transudations through the inflamed membranes, which if not removed by early steamings, gargling, &c., form sloughs that adhere closely to the parts, and, by continuing, acquire a highly offensive fetor. In this state the disease becomes highly infectious, and tends to a putrid nature. The high exalted acrimony of the bile seems to be the *materies morbi*, and if very early evacuated the future progress of the disease may be cut off; and I say this with the more confidence, as I have had abundant experience of its nature, progress, and the most efficacious method of

cure. The whole intention of cure is to recall this irritating poison back from the fauces and even surface of the body into the habit again, and discharge it from the intestinal tube, to prevent and evacuate the accumulation of putrid colluvies as early as possible. The abundance of the sloughs creates great difficulties and sometimes fatal consequences to children, by suffocation, when the sloughs are separated. No rugged surface nor cavity remains like the ulcerated sore-throats, but are more exudacious, and the parts after separation appear of a fresh healthy color.

"Enclosed I have sent you an abstract of the method I pursue in the treatment of this disease, and which, I can assure you, has been attended with the great success.

"Yours most faithfully,

"J. ASH.

"Mr. Greene, Surgeon, in Canoeck."

#### ON THE MODIFICATION OF PIROGOFF'S OPERATION.

To the Editor of THE LANCET.

SIR,—Dr. Eben Watson, in his paper on Pirogoff's operation, says, with regard to the modification he suggests, "Many surgeons in this country and on the Continent have suggested variations in its performance, and I only ask that the above method of operating *without disarticulating*, which is its sole distinctive feature, may be carefully considered, as I have no doubt the other proposals may have been."

Now, Sir, I beg to state that I witnessed Professor Pirrie, of Marischal College, Aberdeen, perform Pirogoff's operation "without disarticulating" more than two years ago; and I know that for many years Professor Pirrie has been accustomed to perform Professor Syme's amputation at the ankle-joint with this modification. At page 754 of his "Principles and Practice of Surgery," published in 1852, he says, in reference to Professor Syme's mode of amputation,—“In performing this operation, I have followed the above directions, with the exception of those contained in the last sentence. Instead of disarticulating the foot (as Syme directs), and then sawing off the malleolar processes, and a thin slice of the tibia connecting them with each other, I have, after making a clearance for the saw by sending the knife round the bones, sawn off the malleolar processes and a very thin slice of the tibia *without effecting disarticulation*; this shortens the proceeding; and whenever I have performed this operation, nothing could be more satisfactory than its results.”

I can testify, from observation, to the great improvement Dr. Pirrie's modification is over the mode proposed by Pirogoff and Syme in their respective operations. I saw a surgeon in a provincial hospital, on one occasion, where the ankle-joint was much diseased, nearly twenty minutes trying to effect disarticulation, and the patient all but *in articulo mortis*; the operator had been a pupil of Mr. Syme, and strove to

perform each step of the operation according to the directions of his master, but at last he was obliged to abandon the attempt at disarticulating—he amputated without it.

I am, Sir, yours, &c.,

ROBERT MARTIN, M.D.

Warrington, June, 1859.

#### News Items, Medical Facts, &c.

THE FRENCH WOUNDED AT MILAN.—The wounded of the French army occupy the great hospital, which contains 2500 beds, as also two large convents, which have been converted into hospitals. All these buildings are extremely well ventilated; and the wounded are under the care of the most skillful surgeons of Milan. Many ladies of note are acting as sisters. The mortality is very low; in fact, out of thirty-seven amputations which were performed on the 9th of June, not one death had occurred up to the 16th. It should be added that the heat is not great, and the weather is beautiful.

GENERAL BENEDEK, now commanding a portion of the Austrian army in Italy, is stated to be the son of an Hungarian chemist.

THE DEODORIZATION OF THE THAMES.—In the course of last week were put into operation in various parts of the metropolis the measures recommended by Dr. Letheby for the deodorization of the Thames. Sheds were erected in Farringdon-street, upon the line of the Fleet sewer; in Trafalgar-square, adjoining the fountains; and in various parts of the east and west of London, under which was the machinery for the preparation of the deodorizing liquid, and which was poured into the several sewers. This can, however be merely regarded as a temporary expedient for improving the state of the river.

DEATH OF THE CORSICAN NESTOR OF THE MEDICAL PROFESSION.—Dr. Vimiguerra, formerly a distinguished military surgeon, who had served in more remote times under the first Napoleon, both in Russia and Spain, and more recently in Africa, has just died at Bastia (Corsica) at the advanced age of eighty-five years. Dr. Vimiguerra had for a long period held the appointment of Chief Surgeon of the Military Hospital of Bastia.

MEDICAL AID WANTED FOR THE FRENCH ARMY IN ITALY.—Notices have been circulated to young medical practitioners and medical students, that auxiliary assistant-surgeons are wanted in Italy. Students of one year will be admitted, after a very light examination on anatomy and physiology, and the minor operations of surgery. The pay of these auxiliaries is to be almost the same as that of the men actually in the army. Fitness for military service is indispensable, and the young men must enter into an engagement to serve through the whole of the campaign.

**CRIMINAL ABORTION AND THE EVIL EFFECTS OF ERGOT.**—M. Sainte Claire Deville, read a paper at one of the late meetings of the Academy of Medicine of Paris, with the following title :—"Investigations into the Relation existing between the number of Still-born Children and the number of Deaths at Paris in the lapse of thirteen years, 1846-1858." This paper, replete with statistical and hygienic facts, is thus summed up by the author. From all the data brought forward, we have the proof that the number of still-born children in Paris has a constant tendency to increase, and that this augmentation has been steadily going on for the last thirty years. These results are taken from the public registers, which latter show that, in 1829, still-births were five per cent, and a fraction, nine per cent. in 1839, and eleven per cent. in 1858. "Though many causes may be here at work," says the author, "I consider that the principal causes are criminal abortions, and the use of ergot in parturition. I, therefore, beg that the academy will appoint a committee to enquire into the matter." The committee has been named, and is composed of Messrs. Cazeaux Guérard, and Devergie.

**SUCCESS OF THE MARSHALL HALL METHOD IN TASMANIA.**—A writer in the *Hobarton Mercury* states :—"On the 18th December last I was called to a child fourteen months old, who had unobserved fallen into a tub of water. A neighbor saw what she considered a bundle of clothes floating in the water, but took no particular notice of the circumstance until the child was missed, when the bundle of clothes turned out to be the lost child. Half an hour must have elapsed before I saw it. I found the people doing all that suggested itself to their minds to restore the child, which was to all appearance dead. I immediately resorted to the rules recently laid down by Dr. Marshall Hall, and the result was as follows :—After the lapse of about ten minutes, some degree of life began to show itself by slight gasping ; in about ten minutes more, the respiration was nearly restored ; and in half an hour from commencing the imitative respiration, the child was able to cry strongly, and swallow a little wine-and-water.

**REPORTED NEW METALLIC COMBINATION.**—It has been lately discovered that an alloy formed of eighty per cent. of steel and twenty per cent. of tungsten possesses a degree of hardness which has never been obtained in the manufacture of steel. Experiments have been made with this new composition at Vienna, at Dresden and at Neustadt, Eurtswalde ; and considerable quantities of the alloy in question are, it is affirmed, being manufactured in Germany.

**"LA ESPANA MEDICO"** announces the death of Dr. José Torres Muñoz y Luna, head physician of the Spanish army. Dr. Muñoz died at Havana.

**AUSTRIAN SOLDIERS ATTACKING A PROFESSOR IN HIS CHAIR.**—A piquet of Austrian troops lately made an attack on the Professor of History of the University of Bologna, intending to prevent his lecturing. The students were preparing to defend their teacher, when the professors of the University succeeded in preventing effusion of blood. But the Chair of History is, nevertheless, suppressed. The director and professors have sent to the authorities a protestation filled with expressions of very deep grief.

**MEDICAL STAFF OF THE FRENCH ARMY IN ITALY.**—Surgeon-General of the Army, Baron Larry. Chief Surgeon of the 1st Corps, M. Champouillon ; of the 2nd, M. Bondin ; of the 3rd, M. Salleron ; of the 4th, M. Fenin. MM. Legonest, Bertherand, and Cazaes are attached to headquarters ; and MM. Méry and Napoleon Perrier to the flying hospitals of the Imperial Guard.

**STRANGE PROVISIONS IN A WILL.**—It was lately announced at a parochial meeting in St. Marylebone that Mr. William Kensett, the well-known Marylebone reformer, who died of cholera in Paris, had stipulated in his will that his body should be given up to one of the medical schools of the metropolis for dissection, and that his bones and remains should then be handed over to the Imperial Gas Company, on condition that they consumed them in one of their retorts.

**PUBLIC DRINKING FOUNTAINS.**—Mr. C. P. Melly has lately written a letter in *The Times*, in which he states that forty public drinking fountains erected by him in Liverpool, together with some which he has sent to other towns, have not cost him in all more than £500.—At a meeting of working men, held on Monday week, in St. Martin's for the purpose of promoting the erection of these fountains in the metropolis, it was stated that about 400 would be required for London and its suburbs ; that three had been erected in Hull, an iron standard fountain at St. Helens, and one at Derby ; besides several in Aberdeen, at the cost of Mr. Gurney, M. P. In New York the movement is proceeding rapidly.

**GELATINE FOR INVALIDS.**—In the course of a trial in the Court of Common Pleas, the mode in which gelatine was made was explained. The best is made of what is called "picker waste," a picker being a thing used in driving the shuttles of power looms, made of buffalo skin, and the pieces cut off in making it are afterwards turned into the gelatine which finds its way into soups. Sick patients, however, have not always the good fortune to get gelatine made from waste pieces of buffalo hide ; for an imitation of this article is constructed out of sheep's trotters, old parchment, and waste pieces of glue.





Robert Lee

# THE LANCET.

Journal of Medical, Surgical and Chemical Science and Practice, Criticism,  
Literature and News.

MR. WAKLEY, M.P., EDITOR.

J. HENRY BENNET, M.D., J. WAKLEY, JR., SUB-EDITORS.

IN TWO VOLUMES ANNUALLY.

VOL. II.

NEW-YORK, SEPTEMBER, 1859.

No. 3.

## CROONIAN LECTURES, ON INTESTINAL OBSTRUCTION.

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS.

By WILLIAM BRINTON, M.D.,

FELLOW OF THE ABOVE COLLEGE; PHYSICIAN TO THE ROYAL FREE HOSPITAL,  
LECTURER ON PHYSIOLOGY IN ST. THOMAS'S HOSPITAL; HONORARY  
FELLOW OF KING'S COLLEGE, LONDON, &c.

### LECTURE III.

THE TREATMENT OF INTESTINAL OBSTRUCTION.

*Relation of diagnosis to treatment. Surgical or operative treatment. Import of cases of gastrotomy hitherto recorded. Statistics of gastrotomy: their deficiencies, their inaccuracies. Propriety of the operation; as a (1) general, (2) special question. Illustration. Gastrotomy contra-indicated in obstruction from (1) intussusceptions; (2) strictures (operation to be substituted for it;—) (3) constipation; (4) gall-stones. Indicated in obstruction by bands, adhesions, diverticula, rent mesentery, twisted bowel, &c. Influenced by age, inflammation, and other casualties. Medical treatment. Its indications: to protract the case; to diminish distension; to sustain peristalsis. Illustrations. in man, in animals. Indications of treatment. Prevention of distension. Alleviation of pain. Choice of sedatives. Enemata; their nutriment, derivative, and mechanical uses. Mode of administration. Purgatives; their hurtfulness, in enemata, by mouth. Mechanical appliances; manipulation, tubage, inflation, crude mercury. Counter-irritants, fomentations. Objections to the views suggested. Appraisalment of treatment. Personal experience, its interpretation, its contrasts. Treatment suggested; simple, rational, effectual. Summary of its details, in the forms and stages of obstruction. Conclusion.*

In the two preceding Lectures, we have successively considered: (1) the chain of phenom-

ena common to all intestinal obstructions; and (2) the symptoms characteristic of its chief varieties. In the first we found, that any mechanical obstruction of the bowel causes an accumulation of its contents above the obstructed part; that this accumulation provokes such a peristalsis as ensures their mixture, and, strictly speaking, their reflux; and that increasing distension finally brings about paralysis and inflammation of the intestine, ending in the collapse and death of the patient. In the second we estimated the relative frequency of the several forms of obstruction usually met with; and pointed out, that their symptoms (referable chiefly to the nature and situation of the obstacle) generally permits an accurate diagnosis, even in the earliest stages of any given case.

It is on the substantial accuracy of these two conclusions that all I have to say respecting the treatment of intestinal obstruction essentially depends. Not only would it be difficult to mention any group of maladies which better illustrates the unity of the Science and the Art of Medicine; but I would add, as the key to the following remarks, that scientific insight, and accurate and early diagnosis, have a specific, if not unusual value in respect to both branches of treatment. If the process of mechanical obstruction cannot be distinguished from that of enteritis, the Physician may search in vain for principles to guide his administration of food or remedies. And if one form of obstruction cannot be distinguished from another, the Surgeon can scarcely venture to operate with any reasonable chance of success.

In respect to the history of the *operative or Surgical* treatment of the mechanical obstruction, it must be confessed that, the cases hitherto recorded afford little ground for any general deduction. That operations have been performed with the view of removing this state; that they have in rare instances been successful,



more frequently unsuccessful; that a careful search among the viscera exposed by gastrotomy has occasionally shown such an obstruction as no further operation could remove, has sometimes shown no obstruction at all; such are almost the only general conclusions which the collation of the numerous examples on record would afford to any one who should question them for information to guide his own conduct.

In point of fact, the progress of our knowledge with respect to this group of diseases reduces many of the examples thus glanced at to a very subordinate import, even in the casuistry of intestinal obstruction; and certainly goes far to deny them any wider usefulness. With no personal motive for depreciating information which I have only obtained by much research, and which is still comparatively unknown to the profession at large, I can find little in many of the recorded successes of gastrotomy, save an assurance of facts requiring no such verification, on the one hand, or a suggestion of contingencies scarcely likely to be parallel, on the other. In one case, an intus-susception has been withdrawn. In another, a band has been divided. In another, a portion of intestine cut out, with a tumor attached to it. But just as, in some of the parallel cases, in which manipulation of the belly, or the administration of crude mercury, or the violent shaking of patient, has succeeded in removing the obstruction, so there are instances of successful gastrotomy on record, in which our wonder at the happy audacity of the operator is unaccompanied by any wish or hope of imitating his procedure. That the mere operation may succeed, there is scarcely any need of these cases to inform us. That it is justifiable, is a conclusion which, even supposing them to record failures and successes with rigid impartiality, they would be utterly incapable of establishing.

The necessity—in other words, the moral justification—of such an operation, must be sought in a contrast of its results with those of the disease when not so treated. But, on the one hand, any large (in other words, any safe) estimate of the fatality of obstruction altogether fails us. For in promiscuous records, we cannot accept any diagnosis uncertified by necropsy. And, for obvious reasons, the details of recoveries are rarely recorded as fully and exactly as those of fatal cases. On the other hand, I am convinced that we have yet to learn the true mortality of mechanical obstruction; that the high mortality it has hitherto offered may be vastly diminished by appropriate medical treatment; and is, indeed, already lessening from year to year. In like manner, we have no safe or trustworthy statements as to the mortality of gastrotomy itself. Further, its very severity and danger have, as it were, reacted upon themselves, so as enormously to increase their own amount. Precisely because it is an operation involving great pain and peril;

exposing a vast and delicate serous surface to an unnatural and dangerous contact with the air; and implying, in many cases, a manipulation such as really amounts to a violent mechanical irritation of the intestines, in order to give the surgeon access to the obstructed point:—precisely for these reasons it has (naturally enough) been often postponed until the access of paralysis, adhesion, or inflammation has robbed it of the greater part of its probabilities of success. So that it is hardly too much to say, that even the secure diagnosis, and the accessible seat of an ordinary hernia, would permit the operation for its relief to be a somewhat debatable measure, were it customary to defer it to that stage of obstruction at which gastrotomy has hitherto been usually performed.

Thus considered, I think that the general question, "Is gastrotomy justifiable in intestinal obstruction?" must be answered with a decided negative; a negative with which any sound practitioner (however limited his views or his experience) might well anticipate all that the most extended research, or careful clinical study, could suggest. In a disease which, however frequently fatal, often allows the patient to recover, even at the last gasp, we naturally feel bound to defer an operation which is only less dangerous than the disease itself, to a period when, in a vast majority of instances, it is no longer a mere obstruction which is present. In scarcely any instance of obstruction is death, strictly speaking, certain; and in few instances in which the operation is thus performed, can we regard this slender thread of hope as materially strengthened.

But, assuming the accuracy of the information I have offered, and the principles I have advanced, it is quite otherwise with that practical question which is often submitted to us by a particular case of obstruction. If, for example, we are right in supposing that the varieties of this state (distinguished, as such, at an early period of the case) have different degrees of fatality; that some permit so frequent a recovery as scarcely to justify this dangerous operation at all; while others are so desperate as to afford only this chance of life—we may not only reject, and practise, the operation in two such varieties respectively, but may find, in the latter proposition, a justification for our practising it at a period of the malady which will render it far less dangerous, and, therefore, far more justifiable.

Few illustrations of the practical accuracy of this way of regarding gastrotomy recommend themselves more directly to our notice, than the operation often named after Amussat, in which the right or left lumbar colon is opened to relieve the distension produced by an obstruction nearer the anus. It is quite true that the anatomy of the operation—especially the unwounded state of peritoneum it generally permits—constitutes one chief cause for its more successful results. But it can hardly be doubted that

its success is partially due to other causes. Indeed, considering the circumstances of many of the obstructions for which it is performed—the serious lesions (cancer or stricture) by which they are caused, and the scarcely less serious incidents (diarrhoea and hæmorrhage) by which they are often long preceded—we are perhaps justified in regarding the absence of interference with the peritoneum as partially counterbalanced by some of the other circumstances of the operation. Yet practically there can be no doubt that this unpromising measure, mostly undertaken merely to palliate the suffering, or to defer the approach, of inevitable death, has been every way more successful than any other operation hitherto practised for the relief of obstruction. And, theoretically, we may gather from the statements of the preceding Lecture, that this striking result is greatly favored by the comparative security of the diagnosis of these obstructions; and by the circumstance, that the physiological relations of the large intestine render the phenomena of its obstruction altogether of slower, and later, occurrence than are the same phenomena in obstruction of the small intestine.

In attempting to delineate the cases which call for gastrotomy, time fails me either to illustrate them by examples, or to recapitulate the characteristic symptoms of the several forms of obstruction. I shall adopt the less diffuse, and more trustworthy, method, of gradually excluding from the operation all unsuitable cases, by pointing out what circumstances ought, in my opinion, definitely to forbid its performance.

Firstly, as regards the intus-susceptions which we have found to constitute nearly half the fatal cases of obstruction recorded. In this group of obstructions, an operation ought not, I think, to be mooted. For a large proportion—if we may trust the information I have collected, no less than thirty or forty per cent.—of all intus-susceptions, undergo a process which permits, and often really accomplishes, the recovery of the patient by casting off the intus-suscepted part. Besides, in the early stage of the lesion (often, indeed, in the latter) that state of obstruction which chiefly indicates the operation, is often quite subordinate to those local lesions which cause the pain, tenesmus, and other signs of irritation present; so that there is a transit, and is *not* an accumulation, of intestinal contents at the intus-susception itself. The characteristic tumor, too, is a sign which belongs, not so much to the occurrence of intus-susception, as to its progressive increase of length, on the one hand, and to the enormous infiltration and swelling, of its various layers on the other. Hence, if the operation were deferred until after the access of this sign (indeed, if it were not practised almost instantaneously), it would generally be either rendered incapable of completion, by adhesion of the opposed coats of the middle and outer layers;

or, in withdrawing the inflamed and rotten intus-suscepted portion, it would at the same time literally withdraw the patient's only chance of recovery. While, but that I am persuaded no British surgeon of repute would gastrotomize a fellow-creature on the suspicion which mere tenesmus and pain would together afford, I could easily adduce grounds for the belief that intus-suscepted bowels are sometimes retracted by the natural efforts of the tube. Lastly, not only is any difference in the fatality of this process, as it affects the different parts of the intestine, insufficient to justify our regarding their treatment by gastrotomy from different points of view; but we shall see that the somewhat greater danger inherent to invaginations involving the large intestine, is compensated by their being far more amenable to the milder operative treatment of reduction by enemata.

The next group of obstructions to eliminate from the discussion is one already alluded to—namely, that of the strictures and tumors which experience shows to be chiefly (though not exclusively) related to the large intestine. Occupying this bowel, in the great proportion of  $\frac{3}{4}$  of their total numbers; coming on gradually; and further suggesting an accurate diagnosis by their symptoms, on the one hand, and their signs accessible to an examination of the belly and the rectum, on the other; they are grouped (however unscientifically) by the practical considerations, that (1st) their nature may generally be recognized at once; and (2ndly), the operation indicated is that of opening the distended colon above the obstruction, and not gastrotomy: in other words, is palliative, instead of curative; safe and easy, instead of difficult and dangerous.

It is only as regards the date at which the operation ought to be performed that I would offer a passing remark. Granting that, in many of these cases, there is a history of previous attacks, which have yielded to ordinary measures without any operation;—granting that, even at the last gasp of the patient, the stricture may relax, the obstructive tissue may be removed by ulceration or gangrene, or the convoluted bowel may acquire a communication by sloughing with an adhering segment of the tube below the obstruction;—granting (what ought always to be borne in mind) that the rate of the whole obstructive process differs in the two divisions of the intestinal canal, so that, on an average, it occupies from three to four times as long a period in obstructions of the large intestine as in obstructions of the small;—granting, too (what the operating surgeon is very unlikely to forget), that capital operations, in cases already foreseen to be fatal, cannot but be reluctantly undertaken, and, perhaps, the more so, that they excite a kind of prejudice against operative surgery in general;—granting all this would still leave two considerations, which are, I think, clearly suggested by the collected records of these cases. One is, that the administration of purgatives by the mouth (and even by the anus)

has been made far too energetic and protracted a part of the treatment. The other is, that the operation has often been deferred to a period when there was no reasonable prospect of its being of any service at all. To judge how much inflammation is present must often be a difficult (if not impossible) task in the advanced stage of a case of obstruction. But the pathology and history of the malady concur to show, that any considerable amount of enteritis, and (*à priori*) of peritonitis, will generally render the relief of the obstruction (whether by dilatation of the stricture itself, or by penetration of the distended bowel) of no avail for the recovery of the patient.

As regards the operation itself, experience shows that there is so little to fear, that even supposing it performed in a case in which four-and-twenty hours more of agony and peril would have ended in a relaxation of the stricture, the patient is scarcely in a worse position for what has been so far an unnecessary interference. It would, perhaps, be invidious to suggest, that the delay seems sometimes ascribable to the dread of an inexact diagnosis—especially to the risk of opening a distended small intestine mistaken for the colon. But asserting, as I unhesitatingly do, the facility and certainty of the diagnosis of these cases in general, I venture to ask whether there is not some analogy between the value of time in the relief, by operative interference, of complete obstruction of the colon and bladder respectively; and whether, in the main, our surgical brethren would not prefer the earliest and most indiscriminate puncture of the bladder by the rectum, to waiting for those appearances of urinary infiltration, to which, in the obstructed bowel, inflammation affords a practical parallel?

Constipation, properly so called, as implying the delay and impaction of *fæces* in some part of the large intestine, is not only a very frequent cause of obstruction, but admits of a definite diagnosis. To provoke marked (not to say dangerous) symptoms of this kind, the accumulation must generally be so large and solid, that an examination of the belly and rectum would rarely fail to clear up the case, and show that no such procedure as operation could be thought of. Indeed, this rule would equally apply to some interesting form of partial obstruction,\* as well as to the rare cases of lead-poisoning which simulate this state.

It is chiefly as to contents other than *fæcal* that the group of obstructions formed by substances within the bowel raises the question of gastrotony.

Impacted gall-stones we have found to be always of a size which implies their entry into the bowel by direct ulceration of the gall-bladder and duodenum, and therefore gives special characters to the previous history of the case. But there are many other impactions on record, in which

the history, symptoms, and necropsy, have alike shown a state such as would have greatly embarrassed the operator. A stricture, or a band, or a cicatrix, has caused a narrowing of calibre; and a plum-stone, a cherry, a piece of bone, or a plug of hardened *fæces*, has converted this narrowing into a fatal obstruction.

After all, however, how do these cases affect the operation of gastrotony? Happily, they are few in number; scarcely more than one or two per cent. of the fatal, and a far smaller proportion of the total, cases of intestinal obstruction. Perhaps this rarity alone would entitle us practically to ignore them. But it is more to the purpose to point out that, while some of them appear to permit of little relief from any operation hitherto practised, the operation itself would sometimes increase, and never diminish, the patient's chance of recovery. Where a speedy death is, humanly speaking, inevitable, gastrotony may be useless, but can scarcely be called dangerous or detrimental.

These considerations bring us to the only class of obstructions for which gastrotony is, generally, suitable. Presuming that in any given case, the symptoms of which conclusively indicate an intestinal obstruction, the characteristics of invagination, stricture, and impaction of contents are alike wanting, there is every probability that the case belongs to a group which, though its constituents are pathologically heterogeneous, is yet distinctly defined by its practical circumstances. Such an instance of obstruction, for example, may be caused by a band of organized lymph, by an adhesion, a diverticulum, a rent in the mesentery, a malformation of peritoneum, a twisting of the tube, or (with a still rapidly decreasing frequency) by a variety of other causes, too numerous to mention. But whichever of these causes may be present, the resulting obstruction has two characters which amply justify the above grouping. Firstly, in its earlier stages, it may almost always be completely removed by an operation. Secondly, any spontaneous cure, akin to that which casts loose an intus-susception, is scarcely possible. So far as I can judge from all the records and preparations I have studied, such a restoration of the intestinal transit, thus interrupted, is one of the rarest contingencies in Pathology. If accumulation, distension, and leakage, fail to dilate the constricted segment against what is often the feeble pressure exercised by the band or adhesion, or to retract it from a peritoneal or mesenteric aperture into which it has slipped, death seems inevitable. Unless a fortunate position of the adjacent loops of intestine, and a still more fortunate concurrence of adhesion and ulceration, enable its contents to circumvent the obstacle; or unless the same general inflammation which permits the sloughing of the incarcerated bowel completes its channel by circumscribing an abnormal cavity—contingencies the rarity of which the statistics of hernia may enable us to estimate (and probably over-esti-

\* See an Essay by the author in THE LANCET for 1855, vol. ii.

mate)—the patient must, to all appearance, die.

But I think that while gastrotomy ought to be restricted to this class of cases, it must not be regarded as their chief (far less their exclusive) remedy. For I am persuaded that the medical treatment which ought to precede this surgical attempt not only should always dictate the time of the operation, but would sometimes obviate any such procedure, by curing the patient. And hence, deferring all further notice of its indications until this medical treatment has been alluded to, I shall only hint at some circumstances which render the operation, always dangerous, additionally unpromising.

Of age, as influencing prognosis, I can say nothing specific, the cases at my disposal not warranting any conclusion. But that in old persons, and shattered constitutions, a procedure like gastrotomy becomes additionally dangerous, it is almost a truism to state. And though it is difficult to appreciate the exact share of several motives for a decision, yet I must confess that the above circumstances have once or twice materially influenced me in deciding against the operation, in cases otherwise suitable.

A history suggestive of previous general peritonitis ought also to have some influence against the operation. Firstly, from its suggesting those diffuse and shallow adhesions, which (unlike the far commoner bands) sometimes defy anything short of a protracted dissection to sever them. Secondly, from the number of bands which are sometimes present, and which an existing obstruction makes the source of a multiplied danger. There are one or two instances on record, in which the condition of the original obstruction has been approached, with various gradations of intensity, by several other constrictions apparently of such secondary origin.

Violent inflammation of the obstructed bowel, and (*à fortiori*) any more general peritonitis, also tend to contra-indicate the operation. In respect to these lesions, the importance of an early operation, and the value of relaxation of the muscular walls of the intestine and of the belly as a diagnostic of inflammation, cannot be too strongly insisted on.

One contingency connected with the operation can only be glanced at here. Supposing (what in both cases remains a possibility) that gastrotomy reveals such a state of the obstruction as defies its immediate relief:—a stricture of the small intestine, for example, instead of a band around it; or adhesive inflammation, preventing the discovery of the obstructed part; or local gangrene, forbidding all further search: in these cases, the formation of an artificial anus is the alternative which would, perhaps, be generally adopted. But I hope shortly to lay before the profession a means of avoiding the risk almost inherent to this operation, in the small intestine, by combining with it a procedure for speedily

establishing an artificial communication between the bowel above and below the obstruction, and thus restoring a transit of contents through the greater part of the canal.

In the *Medical treatment* of obstruction, the chief object of all remedies—the protraction of life—may be regarded as suggesting two subordinate principles of treatment, which are conveniently distinguished as rational and empirical; inaccurate, and even invidious, as these terms are, and little as the measures they severally suggest can be separated from each other.

The first of these principles is—the protraction, by every means in our power, of those pathological processes described in the preceding Lectures.

The most casual glance at the ordinary course of obstruction might well suggest, even though it could not substantiate, the value of gaining time. Our patient, for example, is stricken with what experience tells us is a dangerous disease, but one from which, up to the last moment of life, he may perchance recover. Hence, by so much as we can lessen the rapidity, and increase the duration, of his malady, by so much do we therefore multiply his chances of recovery.

But any such loose and inexact phrase falls far short of representing the true benefits derivable from protracting the course of obstruction. A careful inspection of the processes we have traced, together with some we have barely hinted at, not only brings this hazy, but perceptible, advantage into the clearest view, but at the same time assigns it larger dimensions.

Observation and experiment, in Man and animals respectively, conclusively show that, other things being equal, the amount and rapidity of the distension to which obstruction gives rise, regulate the amount of pain and vomiting, as well as of the collapse which sometimes attends these symptoms only. And the maximum and minimum duration of the whole process also seems often dictated by the same circumstance; a person dying, for instance, in twenty-four hours, with an enormously distended bowel; and an animal surviving for two or three weeks, and when at length killed for inspection, exhibiting a bowel which, though completely occluded, is otherwise little infected.\*

And if such considerations hold good of fatal cases, much more are they applicable to the processes by which Nature sometimes effects a cure of intestinal obstruction. Firstly, on clinical grounds, it is impossible to doubt that a complete restoration of the bowel to its healthy state often occurs. Even in that most fatal class of cases, in which the obstacle is verified after death as a fibrous band constricting the bowel from without, the history of the patient often conclusively shows that he has once or twice been in extreme jeopardy from attacks which have been precisely similar to the last mortal illness, and have left no trace in the bowel. And

\* Compare the author, "Contributions to the Physiology of the Intestinal Canal." (From the Med. Gaz. 1846,) p. 22.

there can be no reasonable doubt, on analogous grounds, that even intus-susceptions do sometimes end in a "resolution" or retraction of equal completeness.

Now, without launching out into physiological questions which cannot here be discussed, I may point out that, while there seems to be no proof for, but much against, the view that intestinal obstruction can be produced (or, save in the equivocal instances afforded by some strictures, bands, or by gall-stones, even augmented) by active muscular spasm, this "resolution" of obstruction is explicable by some very simple considerations respecting muscular action in both striped and unstriped muscle. The peristalsis and dilatation an obstruction provokes are steps towards its removal—efforts of the *vis medicatrix Naturæ*. If the first cannot at once overcome the obstacle, the last, gradually accumulating a liquid mass, forms an active and passive agent of the most subtle and delicate (but powerful) character. Gradually leaking into the stricture, it forms a kind of wedge here. And transmitting equally in all directions whatever force it may receive, it allows even the most distant wave of peristaltic contraction, applied (it may be) many feet from the obstacle, to tell with undiminished energy as an agent of dilatation here.

It would, perhaps, be pushing physical considerations too far to assert that increasing dilatation of the bowel adds a dangerous force to the total hydraulic pressure which peristalsis applies to the segment of intestine above the obstacle. It may suffice to point out the less questionable physiological effects of distension: namely, that it tends to paralyse the bowel it engages, and to interrupt and prevent, in the strictured part, that continuity of movement with the subjacent segment which is essential to the removal of these obstacles. In any case, an inspection of some of these obstructions shows, that they are so circumstanced, as that gradual distension, and active peristalsis, could together relieve or withdraw the bowel from all stricture; could sometimes even tear asunder the frail soft heads or adhesions by which that stricture is caused. And conversely, whatever diminishes or protracts this inevitable process of distension, and thus restricts it to those moderate limits within which alone its results are salutary—whatever prevents the access of paralysis in the muscular wall of the bowel, or helps that wall, already more or less exhausted, to recover some of its pristine vigor—whatever does this will not only stave off death, in fatal cases, but will assuredly, in any large number of obstructions, often mediate complete recovery.

Looking beyond this stage of obstruction, to the more dangerous, and less complete, cures, in which Nature removes the part affected, we still see the same pathological law. Apart from the circumstances which (generally or casually) ensure the physical coaptation of the healthy

segments of bowel adjoining the strangulation, it is in the moderation, protraction, and delay of the inflammatory process that we find the elements of safety. And thus distension, which visibly destroys the tissues of the obstructed bowel by a violence of the inflammatory process, traceable through all grades, from extreme congestion to downright gangrene; which not only prevents, but mechanically disturbs, that sequence (in time and place) of adhesion, organization, and ulceration or sloughing, necessary to remove and appose the diseased and healthy segments respectively; and which further arrests the peristalsis requisite to get rid of the putrid sloughy exuvium set free in the cavity of the intestine;—distension is, from all these reasons, still the *bête noire* of the story.

Did time permit, I could not only verify each of the foregoing statements by records of cases, but could even adduce various instances of the distension and disruption of the united ends of a segment of intestine obstructed by intus-susception many months before. Failing such details, however, there is one fact which deserves notice, as having almost the value of a law in the casuistry of obstruction, and which, amply deducible from the records I have brought together, is confirmed by my own experience. The cases which recover are almost invariably chronic or protracted ones. Those intus-susceptions, for example, which end by the expulsion of the affected segment, have a duration from twice to thrice as long as that of the fatal cases; an estimate to which the marked symptoms of this process, and the anatomy of the expelled bowel, afford an impregnable basis. In like manner, in the half dozen of cases within my own experience, in which unmistakable obstruction has ended in the complete recovery of the patient, it is only in the second, third, or even fourth week that I have witnessed that remission of symptoms which announces the relief of the obstruction, and which often precedes by a day or two the first healthy alvine evacuation.

In accordance with the foregoing rational principle, the following seem the chief indications of treatment:—to prevent distension; to assuage pain; to mitigate excessive peristalsis; and to support the patient's strength during what is necessarily an exhausting, and often a long, illness.

The means of furthering these objects scarcely require any detailed description. The avoidance of distension is to be attempted by reducing, in every available way, the quantity of food and drink: restricting the latter (so far as the often excessive thirst of the patient will allow) to small but frequent sips of cool (or even iced) liquids, and administering the former (in the shape of strong beef-tea, soup, or milk) with almost equal frequency and caution. With such articles, we may use alternate small doses of alcohol; preferably in the form of brandy, with water or even soda water. But inasmuch as the distension practically measures, not merely the

danger, but the probable rapidity, of the case the repugnance of the patient, or the instantaneous vomiting which these articles of food and stimulus often excite, must be met by a corresponding reduction in their doses. And it must often be a matter of great nicety, to judge what is the proportionate urgency of these two antagonist suggestions for and against support, or how far one is to be subordinated to the other.

The other two objects—the alleviation of pain, on the one hand, and of undue or exhausting peristalsis, on the other,—suggest the same kind of remedy. And it is only as to the sedative to be adopted that there can be much difference of opinion.

I am aware that there are many excellent authorities in favor of tobacco, belladonna, and other drugs more or less akin to them, administered especially in the form of enemata. But, judging from my own experience, I should in most instances prefer opium. They may, however, be usefully distinguished from each other in some respects. For continuous administration during the progress of a case, the stimulant properties of opium, and the comparative uniformity and regularity of its effects, suggest its preference. While the depressing influence, and the extreme local relaxation, caused by tobacco, suggest its restriction to one or two administrations in the earlier stages of the malady; a period when experience indicates it to be capable of sometimes effecting the removal of an obstruction. Opium is best given in the solid form; and may be administered, not only with safety, but with advantage, in quantities far exceeding those which would usually be regarded as suitable to the age or constitution of the patient. Belladonna seems, according to its dose, either a less active, or a more dangerous, remedy than tobacco.

Enemata are another means of treatment of great importance. Offering, as they do, a means of introducing into the alimentary canal both the support and the sedatives already mentioned, they are practically of so much more value in a third way, that we must often be content to restrict them to this other office. In a degree varying of course with the situation of the obstacle, they permit the application of mechanical remedies, which, with proper precautions, can do no harm, and may perhaps remove the obstruction. Should a portion of them be retained any time, the water they introduce into the system is of course no contemptible aid to nutrition; and the substitution or admixture of milk or gruel confers upon them a further contingent usefulness by permitting an absorption of other constituents of food. But their value chiefly depends on the chance of their gradually distending the bowel at the obstruction, and thus effecting such a change in the position or arrangements of its wall as releases the impacted or intus-suscepted part. The remedial effect of their warmth and moisture we need not discuss; but we may fairly presume some analogy

to the known effects of external fomentations to inflamed parts.

As regards the administration of these enemata, I can but offer some suggestions. Firstly, that it ought never to be confided to an ordinary nurse, but should be regarded as an important operation, only safe or efficient if undertaken by a person of competent skill. In rare instances, inflammation renders any considerable injection of liquid into the lower bowel both agonizing and dangerous: or even permits its transit through the stricture without allowing any return. In many cases, the tension of the belly, from which the patient suffers so much, offers a similar, but less valid, obstacle. Hence it is chiefly in the earlier stages of the malady that its use is most easy and promising. After arranging for the complete occlusion of the anus around the tube, the enema should be injected with extreme slowness and deliberation, waiting from time to time until the effect of that slight increase of abdominal fullness which even an additional ounce or two of fluid can excite, has subsided, before attempting the introduction of any additional quantity. Injected in this way, little by little, a resolute patient will sometimes receive an enormous quantity of liquid before the operator finds the limit of injection is reached. And it is obvious that, only by such a procedure, followed by as long a retention of the enema as the patient can afterwards manage, can an injection be expected safely to accomplish the mechanical removal of an obstruction. Indeed, there is little chance of this happy result unless the patient is determined to bear some pain; and the operator equally determined to inflict no more than he can help, in reaching that climax of distension at which only the enema is likely to remove the obstruction.

Is it of any real advantage to combine purgative remedies with these enemata? I firmly believe not. The mere peristalsis (apart from distension) of the bowel below the obstructed point is far more likely to do harm than good; by increasing constriction, and dragging upon the strangulated point. And any transfer of irritation, by sympathy, from the lower of these two segments, to the upper (or distended) one, is just as much to be shunned. The distension present is itself only too violent a stimulus;—a stimulus which, in the earlier stage of the disease, excites violent contractions of the bowel; and, at a later period, only fails to produce the same effect by the extreme exhaustion and paralysis it has itself brought about:—a stimulus which it should, therefore, be our express object to mitigate and diminish, rather than to exalt by adding a new irritation.

And this brings me to the subject of purgatives, as administered by the mouth: a subject on which I can hardly be sufficiently explicit, without pointing out how far the views I have now published and taught for several years modify those till then received.

That the enormously distended writhing intestine of a complete obstruction indicates the uselessness of all further attempts to relieve it by purgatives,—such is the proposition by which I may briefly sum up what has been said on this subject by Dr. Watson, the first of our living medical writers.

But I venture to think that the doctrines I have advanced will not so much follow this observation into details, as change its whole purport, even while they confirm its practical value. Long prior to that advanced stage of obstruction which is thus made the turning point in the administration of purgatives; long prior to the fecal vomiting which usually precedes it for some time; the physical examination of the belly shows an accumulation of liquid, and a creeping flatulent peristalsis, beneath its perhaps still smooth, relaxed, and flattened walls. And showing this, it indicates, not so much that purgatives are useless—for there is abundant clinical proof that they *may* be of service—but rather that Nature herself is preparing, within the obstructed bowel, the best of all purgatives; a mass admirably adapted by its quantity and quality, and especially by its consistence, to do whatever any aperient can towards opening a passage. And if, as we have concluded, there is any danger of even this stimulus being too great; of its distending the bowel with such a rapidity as to paralyse its muscular coats, or to provoke an excessive and exhaustive peristalsis, or to excite a diffuse inflammation which so aggravates and distorts the local inflammatory phenomena as to destroy all chance of their restoring the permeability of the obstructed canal; how much more have we reason to dread the distension caused by hydragogues, or the irritation of drastic cathartics? “Withhold purgatives,” I should say, were I addressing a class of students to whom I might justifiably speak *ex cathedra*—“withhold purgatives in these cases, not because the cases themselves are hopeless, for there is nothing to justify the inaction of despair. Some of these cases recover, and many may be cured. But withhold purgatives, because they are not merely useless, but positively hurtful; hurtful not only in the late, but in the early, stage of the obstructive process; not merely condemned by experience, which is sometimes equivocal, but contra-indicated by whatever rational principles can be deduced from the physiology and pathology of the malady. Or give them, if you give them at all, with a full warning that you are adopting a routine which, a few years hence, you will probably have to renounce and oppose; and which, in the meantime, your patients and yourselves will find a dangerous substitute for clearness of insight, accuracy of a diagnosis, and resolution of treatment.”

Together with purgatives, I may mention various other remedies, the use of which is, in my opinion, forbidden by somewhat similar reasons. Manipulation (or rather pressure) applied to

the obstruction, has been known to relieve it; perhaps by lengthening and effacing a twist of the bowel; or by withdrawing an intus-susception; or (as in an instance from the practice of our venerated President, in which this pressure was nothing more than the moderate palpation necessary to a physical examination) by forcing onwards an impacted gall-stone. But it has also been known to burst the distended and rotten bowel, and to kill the patient. And hence, considering both contingencies, as well as the unlikelihood of its generally relieving an obstruction, even in the earlier stages, I think few would regard this blind method of operation (for such it really is) as justifiable.

The introduction of a long tube into the rectum and colon has also been strongly recommended. But as a means of exploring the rectum, I suspect most surgeons would prefer the ordinary bougie. The flexible tube has sometimes been arrested by folds, or displacements, or curvatures, of the rectum; and has thus turned back from the sigmoid flexure, so as to suggest a far higher introduction than has really taken place. It has sometimes passed through a stricture without bringing any relief; or has even aggravated it by transmitting fluids to increase the distension of the dilated and paralysed canal above the obstruction. As a means of administering the large enemata already noticed, it seems to have a few inherent advantages over the ordinary tube of a few inches in length. While it is certainly open to the objection of being more difficult and unsafe of application, in any but the most practiced hands; especially should it (as would rarely be the case) impinge upon the actual seat of the obstruction, and perhaps the inflamed or gangrenous tissues of its neighborhood. It is said to be of great service in relieving the distension associated with enteritis.

Inflation per anum is another operative remedy, which, though its use has occasionally been attended with signal benefit, seems to be discountenanced by a consideration of the pathology of the malady, and by a comparison of the mechanism of the operation with that of the maximum injection of liquid. There are certainly one or two instances on record, in which an obstruction, having every symptom of an intus-susception, has been suddenly removed by an inflation of the patient's rectum with a pair of bellows, the relief having instantaneously followed that severe pain which complete distension brings about. And in one case this successful inflation was accomplished by successively injecting the solutions of a carbonate and of an acid, so as suddenly to effervesce within the intestines of the shrieking patient.

Not having any personal observations of this kind to offer, I am disqualified from criticising such a procedure, save to point out, that while experience seems almost to limit its usefulness to intus-susception of the large intestine, it appears to be, on the whole, a more sudden and



violent, but less manageable and powerful, distensive agent than a liquid enema, which, with reasonable care, may easily be made to fill the whole large intestine, as far as the ileo-cæcal valve, without inflicting upon the patient any danger, or even much suffering. Indeed it has already been mentioned, that in the early stage of obstruction, the quantity in which such an enema can be introduced, and the state of the belly during its presence in the large intestine, materially help to fix the locality of the obstruction, by deciding whether it is, or is not, above the ileo-colic valve.

Crude mercury is another remedy to which the best effects have often been attributed, and by which one can hardly doubt obstructions have been relieved. But I should strongly urge its disuse; not only because its successes are enormously outweighed by its failures—especially if we deduct (as I am afraid we ought) some of the supposed successes as mere coincidences of its administration with the patient's recovery; and others as cases in which an error or diagnosis has caused it to be given when no mechanical obstruction was present—but much more because it often seems to do harm; embarrassing the bowel, and increasing the distension and pressure already disposing it to paralysis, inflammation, and gangrene.\*

I need say little respecting such measures as counter-irritants and fomentations. Unless called for by inflammation, it is difficult to see what the former can effect. On the other hand, the comfort sometimes afforded by the latter, suggests (or rather confirms) their usefulness. Wet cloths, cold effusion, and other varieties of the application of water, are occasionally of service. Where distention is excessive, a bandage is often felt as a relief, and sometimes seems to have a more definite value in moderating the throes of pain and peristalsis, by its influence on the really co-ordinate contractions of the belly and intestine.

And now, as I approach the completion of my task, and look back at the ground over which we have travelled together, permit me, in justice to the dignity of Rational Medicine, to recognise the objections which suggest themselves against these remarks on the treatment of obstruction, before I sum up their application to the emergencies of practice.

Hitherto operations have generally been most unfortunate in their result; and yet they are recommended. Purgatives, crude mercury, inflation, have repeatedly been successful; yet they

are discountenanced. Diagnosis, in the sense of discriminating the variety of obstruction present, has been pronounced impossible; and yet it is asserted to be essential to the proper treatment of any given case.

The answers to these objections must be sought chiefly in the pathology of obstruction. And it is only in so far as my views upon this process are true inductions; only in so far as they rest upon a broader and better basis of facts than has hitherto been constructed, and upon ground clearer of old error; that they are entitled to any weight against the opinions they seek to depose. Perhaps I might also add, that it is only in so far that I can claim any originality for these suggestions respecting the treatment of obstruction. In other words, I might easily adduce in their support even more than the casual statements which are always to be found on either side of any vexed question.

It is, indeed, not by statistics that we can measure the comparative successes of different modes of treatment in disease generally; still less in maladies where the mere fact of recovery often prevents the exact ascertainment of the lesion. It is rather by close (if even unconscious) reasoning; by strict scrutiny; by deep insight, and (if I may venture to introduce any phrase savoring of ethics) by a truthful and teachable habit of mind, that the treatment of disease must be worked out.

I dare not arrogate such qualifications. But not the less do I feel bound to urge the convictions which the clinical study of this malady has forced upon me. Hitherto, indeed, I have forbore to recite my own personal experience. For in this respect I feel that I am addressing many, to whom I could more fitly and willingly listen than speak. And considering that the casuistry of this group of maladies has afforded me about 600 cases, certified by necropsy, and narrated (from the striking character of their symptoms) with far greater accuracy than is usual in promiscuous records, I have felt that the deductions from these materials (which probably represent little less than a quarter of a million of necropsies in deaths from all causes) were far more valuable than a mere recital of some dozen of cases. Indeed, as any further notice of these vast materials was out of the question, I felt that it would be neither logical nor impartial to parade my own scanty contributions; which, however important to myself as the materials of that clinical study incorporated in the foregoing remarks, could have no more specific interest for my hearers. But now, in so far as personal and recorded observations represent two comparatively independent sources of information; and thus almost constitute two boundaries of research, in the directions of depth and width respectively; I feel that it would be wrong to suppress the argument adducible from their concord, by fusing them into a single and subjective statement.

Of such deductions from personal experience,

\* A better remedy of this kind was mentioned to me by a patient some years ago as having cured him of an obstruction for which he had been "given over" by his professional advisers. In this desperate state an old woman was called in—apparently from her known success in the treatment of this, or some similar, malady. The nostrum she gave was a soft mass, obtained by boiling down Zante currants with a very small quantity of water. Here, again, I have no experimental right to a conclusion. But I may point out, that the administration of such a remedy would promise many of the advantages expected from crude mercury; if, indeed, the softer and equable distension it might perchance produce would not be a more energetic (as it certainly would be safer) mechanical agent to apply to the obstructed part. It is, perhaps, worth trying in lead-

there are three which I would specify in respect to the treatment of obstruction. (1.) That accuracy of diagnosis as to the presence, and even the variety, of obstruction, is generally attainable. (2.) That the medical treatment above recommended, is often successful: far more so than that which it claims to forbid and replace. And (3.) that in both successful and unsuccessful cases, it not only diminished suffering, and protracts life, but especially lengthens the comparatively painless early stage, by deferring the access of distension, enteritis, and peritonitis.

The only qualifications these statements require are as follows. Firstly, that in the term "variety of obstruction" it must be remembered that we have necessarily included lesions pathologically distinct:—a band, a diverticulum, a ruptured mesentery, a vagrant slip of omentum, giving rise to obstructions noway distinguishable in symptoms or treatment. Secondly, that the casual successes of the antagonist treatment—purgation—have to be verified, before they are explained.

The last allusion requires a more explicit statement. A patient, to all appearance dying of an intestinal obstruction, takes croton oil, or crude mercury, and forthwith recovers. And anyone who demurs to the statement implied by these facts, or to the practice they recommend, is bound explicitly to state his objections.

I need hardly say that we are not here criticizing the statistics of imposture,—the incredibly frequent pneumonia of homœopathic quacks, or the still more incredible reactions of matter in proportion to the quantity in which it is *not* present,—but the narrations of skilful physicians and surgeons, whose statements are undoubted, and whose opinions deserve the sincerest respect. It is possible that, in some of these cases, the diagnosis must have been erroneous; and that in others, the relief experienced was an illustration of the "*post hoc, ergo propter hoc*." But in most instances it can hardly be doubted, both that obstruction was present, and that the action set up by the remedy speedily removed the obstacle.

But I believe that if such cases themselves are weighed dispassionately, there are other reasons for looking at them with doubt. Interpreted by pathology, there is reason to suppose, that the violent remedy only anticipated a natural result, which would have occurred less painfully and dangerously in a short lapse of time: or that it restored a peristalsis, which, under more suitable treatment, need never have been interrupted or exhausted at all. Still more do similar doubts suggest themselves, as regards that mass of cases, of which the successful event forms the true object of treatment. The occasional benefits of such remedies are outweighed by the fact, that they not only often fail; but that, where they fail, they reduce the patient's recovery. Such a conclusion is equally deducible from recorded cases, and from pathological considerations: which latter quite explain how

that very aggravation of peristalsis and dilatation which rarely overcomes an obstacle frequently increases exhaustion, pain and collapse: that it may burst the bowel; may prevent or destroy the adhesive process, and the chance of recovery this modification of inflammation sometimes affords; and lastly, may increase peritonitis and effusion.

And though any statistical comparison of the two plans at present quite fails us, I venture to anticipate, from personal observation, that such a comparison would afford striking proof of the superiority of the treatment I have advocated. Nay, more, I hazard the prediction that it will hereafter be proved so. Not because I have long advocated it. Not because its every detail has been matter of careful consideration, gradually ripening into strong conviction. Not even because the drift of professional opinion has evidently for some years past shown signs of setting into this channel. But rather because I believe it to rest upon a scientific basis; upon physiological and pathological foundations both wide and deep: because it seems to me to offer an illustration of the immortal law, "*Natura enim non nisi parendo vincitur*," and to show that in a disease often incurable, always dangerous, Providence has confided to us the lives of our fellow-creatures:—teaching us how, by studying his own body, Man may often remedy one of its stormiest diseases, just as, by studying inanimate Nature, he may, with means no less simple and apparently inadequate, avoid the whirlwind, guide the avalanche, put back the glacier, attract the fertilizing rain, and control the devastating flood. Comparing the duties we have to perform with some of these tasks, and with others which, though strictly medical, the individual cannot undertake, and the social organization called Government is only beginning to count amongst its functions—the directness and readiness of the means we wield in these, as in other diseases, may well mingle gratitude with those feelings of reverence and responsibility which animate the toil of the Physician's life.

The following is a summary of the treatment suggested by the foregoing remarks for the several forms of obstruction:—

In intus-susception of the large intestine, repeated injections of liquid into the rectum, so as to distend the bowel to its utmost dimensions.

In stricture of the large intestine, the institution of an artificial anus above the obstacle.

In obstruction from bands, diverticula, &c., mostly affecting the small intestine, gastrotomy, and division of the cord-like cause of strangulation; a procedure which, if interrupted by unforeseen impediments, may further require the institution of an artificial anus in the most distended part.

In obstruction by stricture, however, a tobacco enema should be administered at least once; a measure which should be repeated, if need be,

in obstruction by bands, and especially by gall-stones.

In all cases, opium and support to be freely administered from the earliest stage of the malady. The bulkier liquid constituent of the food to be given as sparingly as possible by the mouth, but administered freely per anum. Distensive enemata to precede all operations, if only as a means of aiding or assuring diagnosis. Where vomiting is excessive, nourishment to be also injected into the rectum in small and frequent doses.

After recovery, all food which can introduce indigestible substances into the intestine should be carefully avoided; the bowel having sometimes undergone changes of calibre and arrangement such as permit substances easily transmissible through the healthy canal to cause fatal obstruction.

To you, Sir, not merely the President of this College, but the fit representative of its learning and wisdom, I now respectfully resign the office which your kindness selected me to discharge. I do not apologize for having attempted to bring a subject so large within limits so small; for our motto, "*o bios brachus e de techne makre*," is an ample justification for my saying here, what I have waited twelve years before fully submitting to my professional brethren at all. Nor is it in the present era, and within the walls of this institution, that a Physician need excuse himself for dwelling on the physiological principles of Medical and Surgical practice. But if, in the stress of what has often been a hasty and casual utterance, I have unwittingly swerved from the tone of calmness and dignity proper to scientific discourse, I trust you will look indulgently upon a laborer who can truly say that his heart has been in his work; for the errors of which he therefore, not irreverently, hopes to be forgiven, in some sense like one of old, "*quia multum amavit*."

## PRACTICAL CLINICAL REMARKS

ON

### A CASE OF CROUP.

By T. A. BARKER, M.D.,

PHYSICIAN TO ST. THOMAS'S HOSPITAL, AND LECTURER ON CLINICAL MEDICINE.

GENTLEMEN,—This case is one in which the disease commenced in, and was probably for some time confined to, the larynx, admitting of great, and, it was at first hoped, complete relief by the performance of tracheotomy.

H. J. G.—, horse-boy, aged thirteen, was admitted into Luke's ward on January 6th, 1859, at half-past one P. M. About ten days previous to his admission, he had slept in the cold air, after being in a theatre. This was followed by symptoms of catarrh, which increased until January 4th, and then in the afternoon symptoms similar to those observed on his admission set in, and rapidly became urgent. I saw him

almost immediately after he was placed in bed. When lying quietly he seemed disposed to doze, and did not appear to be in much distress; but when disturbed for the purpose of being examined, it was evident at once that serious mischief existed in the larynx. A loud, harsh, laryngeal sound accompanied the whole acts of inspiration and expiration, and these were continuous, no interval being perceptible between the termination of one and the commencement of the other. This symptom always indicates great obstruction in the larynx. The cough, though not frequent, was loud and ringing. The respirations were 28 in the minute, and labored; the pulse 120, small and soft. The fauces were red, but not swollen, and on the right tonsil and on the right side of the uvula were two small, white patches, which appeared to be false membrane. The chest was everywhere resonant, except about the centre of the left lateral portion, and there it was slightly more dull than on the right side. Scarcely any breath sound could be heard at any part of the chest; but this does not necessarily indicate disease of the lung in such a case as this, where the air was inspired slowly through a constricted larynx. I have seen many cases, where the larynx has been narrowed by chronic disease, in which no breath sound could be heard, although the lungs were free from disease. The absence of tumefaction about the fauces, and the apparently healthy state of the chest, indicated the probability of the dyspnoea being caused by disease in the larynx; and pain on pressure of this part, difficult deglutition, and a peculiar ringing, brassy sound of the voice and cough, removed all doubt.

In the treatment of such a case, we have to consider well what are the chances that ordinary remedies will check the disease before it has closed the larynx to such an extent as to render sufficient respiration impossible. In determining this point, we must inquire whether the disease be progressing, and the dyspnoea increasing, in spite of remedies.

In this case, no remedies had hitherto been used, and we had to be guided solely by the state of the patient when first seen. If he had been in great distress, drawing in his breath with labor and difficulty, there would have been no doubt of the propriety of immediately opening the trachea, so as to allow air to enter the lungs more freely than was possible through the larynx. But it is not safe to assume that, because there may be little dyspnoea and distress, there must be little danger. The difference between the size of an aperture through which air amply sufficient for respiration can pass, and that which is altogether insufficient, is very small; and a change from the one to the other may take place very rapidly. I have known a case where a sore throat was supposed to be cured, and no disease in the larynx was even suspected: a sudden fit of coughing was followed by instantaneous death, almost without a struggle; there was great oedema about the

larynx. I have had two hospital patients, who were known to have slight disease in the larynx, but who were apparently getting better. After passing quiet nights, urgent dyspnoea and faintness came on immediately after they were awake in the morning, and they died before assistance could be procured. Indeed, this boy was himself a proof that the limit beyond a sufficient and a very deficient aperture is slight. When lying quietly in bed, you would hardly have supposed he labored under serious disease; when disturbed, the urgency of the symptoms was manifest. One symptom, however, was always present, and I attach great importance to it in disease of the larynx: the act of expiration was as long as that of inspiration, and there was no interval between them. This, I believe, does not occur unless the larynx be greatly narrowed. We had further proof of insufficient respiration in the appearance of the boy. His face was dusky, and his lips livid; the veins of the neck were distended.

An emetic of ipecacuanha wine gave little relief, and I at once came to the conclusion that tracheotomy ought to be performed. I do not mean by this to deny that other treatment, in such a case, might not save life: I mean that delaying the operation would greatly diminish the chance of recovery. The disease had existed in an aggravated form for two days; the dyspnoea was at times very great; and the face indicated insufficient respiration. In these cases, the probability of a fatal termination cannot, within wide limits, be measured by the urgency of the symptoms. These, as I have stated, often increase suddenly and rapidly, not giving sufficient warning to allow of assistance; and patients die who might, by a timely operation, have been saved. Neither is this sudden increase of the disease the only risk incurred by the delay. If the disease increases slowly, although symptoms do not for some time become urgent, other mischief is going on. The system becomes depressed by the circulation of impure blood, the result of imperfect respiration; and the lungs become congested; and thus the operation, if performed at last, is less likely to be successful than if performed at an earlier period. I have lost one case, because the patient would not allow the operation to be performed when it was first recommended, and when it would have given immediate and, probably, permanent relief. The lungs were then healthy; but afterwards, when the trachea was opened, although she had some ease for a short time, the lungs were greatly congested, and she died in a few hours. If we never perform this operation until we are certain that the patient will die unless it be done, we shall lose many lives which might be saved.

At five o'clock, as the boy lay in bed, he seemed so easy and tranquil, that Mr. Simon, when he arrived to perform the operation, did not at first admit it to be necessary. The great and instantaneous increase of the dyspnoea so soon as he was roused and taken out of bed, as

well as the sound of the voice and cough, removed all Mr. Simon's doubts; and the trachea was opened without any difficulty, except such as arose from great hæmorrhage. It was necessary to tie one vein. In half a minute after the trachea tube had been introduced, a most extraordinary improvement had taken place in the boy's appearance. The blueness of the face, and its anxious, haggard expression, were gone; he breathed easily, became tranquil, and soon fell into a quiet sleep. I ordered him to take a grain of calomel every third hour, and to have a drachm of mercurial ointment rubbed on each leg four hours daily. He had beef-tea and milk.

He passed a quiet night, and was easy when I saw him the next day; but he breathed quickly, 40 times in the minute. This made me fear mischief in the lungs. The chest was fairly resonant; no sounds could be heard by the stethoscope, except such as were evidently propagated from the trachea. At night he became worse, and had a convulsive fit; but afterwards slept. At two p.m. the next day I found him pallid, faint, and scarcely sensible. The cervical veins were turgid, and the lips livid. Loud crackling sounds could be heard over the whole chest, and the left side had become less resonant. He died at five p.m.; forty-eight hours after the operation, and four days after the onset of urgent symptoms.

No disease was found, except in the lungs, larynx, and trachea. The upper lobe of the left lung was airless and fleshy; the rest of this lung and the right were crepitant, with here and there a little consolidation, not pneumonic. The tonsils and soft palate were injected, and covered for the most part by a false membrane, greyish, smooth, tough, and thick, so closely adherent that it seemed to send processes into the substance of the tonsils. Dr. Bristowe almost doubted whether it ought not to be regarded as exfoliation of diseased and thickened mucous membrane. There was abundance of thick false membrane closely adherent to the mucous membrane of the epiglottis, larynx, and upper part of the trachea, and some had been displaced by the operation. Lower down it was less adherent and more shreddy. At the lowest part of the trachea and in the bronchi it became thicker and more adherent. Into all the tubes proceeding immediately from the bronchi, the false membrane was prolonged in the form of a nearly solid cylinder of toughish grey fibrine. It passed anteriorly into the secondary tubes of the lower lobes, and then for the most part ceased, the smaller ramifications containing puriform mucus and a few shreds of adherent lymph. In the upper lobes of both lungs the casts were prolonged even into the smaller divisions of the tubes, so that to the naked eye all the tubes appeared to be completely occupied by fibrinous casts, and these were solid, except in the two larger bronchi.

This account of the post-mortem examination

proves that the larynx was in a state which required and which admitted of relief from tracheotomy. Indeed, without this proof, the necessity and advantage of the operation was shown by the instantaneous improvement which took place after the trachea was opened; and as this improvement continued for twenty-four hours, it is probable that the greater part of the disease in the lower part of the air-passages took place after the operation.

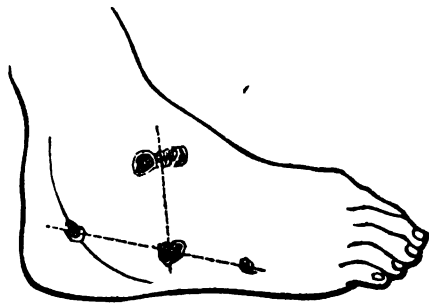
Before you determine on the performance of tracheotomy, it is of course desirable to ascertain, not only that the larynx is diseased, but also that the lung is sound—or, at all events, so sound that it can carry on sufficient respiration, provided air can obtain access to it. Percussion, in these cases, will inform you whether the lung be solid, or contains air; but the stethoscope is generally of little use. The breath sounds are usually very faint, in consequence of the feebleness of the current of air which passes through the narrowed glottis; and, such as they are, they are drowned, as it were, by the loud, harsh sound of the air passing through that narrowed opening. I had fears, in the case now before you, that disease was extending downwards. The trachea, as well as the larynx, was tender when pressed; and there was a little dullness, as I have before stated, in one part of the left lung. Nevertheless, I did not think at the time of the operation, and I do not think now, although extensive obstruction has been found in the bronchial tubes, that it was improperly done. Disease below the point where the tube was introduced into the trachea was not certain; if it existed, it was probably at that time slight, and of a nature which might admit of cure.

In cases of laryngeal disease, we often cannot be sure that tracheotomy is absolutely necessary, and we often cannot be sure there is no disease existing which will preclude the possibility of its success. I am certain that more mischief is done by postponing or omitting the operation than by hastening its performance. In my own experience, I have never seen cause to regret having ordered tracheotomy, but I have often seen cases where patients died, either because they would not allow it to be performed, or because it was postponed until too late.

we therefore had good reason for believing him to be strumous. About a year ago he sprained his right foot, which for the last nine months has been in a painful and diseased condition. He was sent here from the north of England, with diseased tarsus; and he stated that it had been proposed to amputate the foot, but that he had refused to submit to this, although he would not object to any operation which did not involve the loss of the entire foot.

On examining the diseased foot, the case at first sight seemed to be an exceedingly bad one; and although I was anxious to give him a chance of saving the member by resecting the diseased structures, it was a question whether amputation ought not to be performed. The line of treatment in this case, however depended upon the diagnosis which might be come to; and it was therefore necessary to make this very carefully, before we could say whether resection held out a reasonable prospect of success or not. Examining the foot with this view, I found that the ankle-joint appeared to be perfectly sound, and that the whole line of articulations on the inner side of the foot—namely, the articulations between the astragalus and scaphoid, between the scaphoid and the three cuneiform bones, and those of the cuneiform bones with each other, and with the first, second, and third metatarsal bones—exhibited no sign of disease. Several fistulous openings existed on the outer side of the foot, down which a probe passed to diseased bone in the outer side of the os calcis; another opening over the upper and outer part of the astragalus led down to disease in that situation; while another, on the outer border of the foot, revealed the existence of disease in the cuboid. Besides these, there were four or five

FIG. 1.



openings on the inner side of the sole of the foot; but these all led to disease at one point only, and that on the upper surface of the os calcis. The morbid action, indeed, appeared to be limited to the upper and anterior part of the calcaneum, the anterior outer portion of the astragalus, and the posterior (and greater) part of the cuboid. The anterior calcaneo-astragaloid, and the calcaneo-cuboid articulations were diseased; but that between the two outer metatarsal bones and the cuboid was sound, nor was there any evidence of disease in the external cuneiform bone.

## PRACTICAL CLINICAL REMARKS

ON

## DISEASES OF THE TARSUS.

By JOHN ERICHSEN, Esq., F.R.C.S.,  
SURGEON TO UNIVERSITY COLLEGE HOSPITAL.

GENTLEMEN,—The subject to which I am desirous of directing your attention to-day is that of diseased tarsus, in connection with the case on which I operated last week. The case to which I allude is that of a man named G—, a sailor, aged twenty-two, a native of South Shields. His mother died of consumption, and

Having arrived at this diagnosis, I determined to give the poor fellow the chance he wished of saving his foot, and accordingly proceeded to operate by making a long  $\perp$ -shaped incision on the outer side of the foot, (Fig. 1,) turning up the flaps, exposing the parts freely, and gouging away all the diseased osseous structures. The diagnosis at which we had arrived was found to be correct, but the disease had extended so far inwards in the cuboid bone—occupying that small corner which articulates with both the external cuneiform and the scaphoid—that I was obliged to lay open the articulation between the scaphoid and cuneiform bones; and this opening up of the great anterior tarsal synovial membrane, for the reasons which I shall presently name, leads me to fear the result of the operation.

[The day after the operation a very severe attack of erysipelas came on, which led to abscess in the sole and inner side of the foot and to great constitutional debility. The resection wound, however, progressed favorably; but the soft structures of the foot having become disorganized by the erysipelatous inflammation, and the patient's strength greatly reduced in consequence, it became necessary eventually to amputate the foot. Since then the case has done well.]

This leads me to make some observations on the diseases of the tarsus generally, their diagnosis and treatment.

In no region of the body have the good effects of modern conservative surgery been more distinctly shown than in the tarsus. In the "good old time" of surgery, if a person had a white swelling of the bones of the foot, or a diseased tarsus, he was at once condemned to amputation of the limb. It was enough for a patient to have "disease of the tarsus" for him to have his limb removed; no distinction being made between disease of the different parts of the foot, nor any attempt to save the sound by the sacrifice of the diseased part.

Until a comparatively recent period, indeed, "diseased tarsus" was described as a whole. Surgeons did not endeavor to make out the exact extent and amount of the disease, and any case described as "diseased tarsus" was looked upon as requiring amputation of the leg. The rule of practice then observed was, amongst the wealthier classes—those who could afford the expense of a "cork leg"—to amputate a little above the ankle; but amongst the poorer classes, to remove the leg about a couple of inches below the knee, so as to give the patient a stump which, when bent, would fit into the socket of a wooden pin. Thus, in the latter case especially, not only was the leg, itself perfectly sound, sacrificed, but the patient was exposed to great additional danger; for if there be one point more than another which has been indisputably proved by surgical statistics, it is, that the mortality after amputations increases, *cæteris paribus*, in exact proportion as we approach the

trunk, every additional inch which we remove augmenting the danger to the patient. This practice continued to prevail until M. Chopart drew some distinctions between the treatment to be pursued, according as the disease affected the anterior or the posterior tarsal bones and articulations. He showed that when the anterior articulations only were affected, amputation at the junction of the astragalus and calcaneum with the scaphoid and cuboid—an operation which goes by the name of "Chopart's amputation"—ought to be performed; thus removing the whole of the disease, and the patient recovering with a shortened foot, but, the heel being preserved, one on which he could bear the weight of his body, and which would be highly useful to him.

The next step in the conservative surgery of the lower extremity, in cases of diseased foot, was the operation introduced by Mr. Syme,—that of disarticulation at the ankle-joint. This was certainly a great advance, for the flap being taken from the heel, the patient has a stump on which he can bear. The operation is also a very safe one. I do not know the precise statistics of all recorded cases; but this I know, that I have performed it nine times without a death, and this, in the lower extremity, is extremely satisfactory.

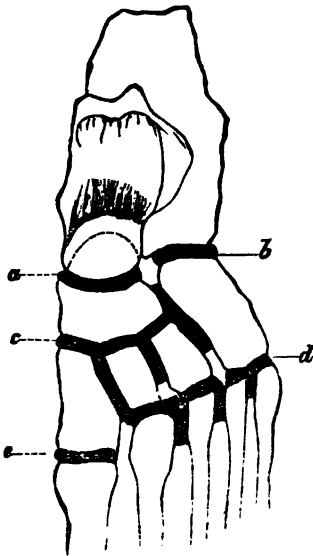
Since the introduction of anæsthetic agents, conservative surgery has taken great strides, and I think you may look upon conservatism in surgery as the necessary result of anæsthesia. For although operations of this kind were performed years ago by the Moreaus, Park, and others, the their utility demonstrated, yet the operations of gougings, scrapings, and partial resections were so horribly painful to the patient, and occupied so much time in their performance, that surgeons dreaded to undertake them. Of late years surgeons have learned to discriminate disease of one part of the tarsus from another, and to apply a different, but appropriate, treatment to each.

Looking at the subject in a diagnostic point of view,—and the treatment is most intimately connected with the diagnosis,—we find that the pathology of diseases of the tarsus is closely connected with its healthy anatomy. Composed, as it is, of seven bones, it presents four distinct articulations. By the term "articulation," applied to the tarsus, I do not mean merely the connection of contiguous bones with each other, but distinct synovial sacs shut off from communication with other synovial sacs in the foot. These are well represented in the annexed diagram, drawn by my house-surgeon, Mr. Kempster.

The *posterior calcaneo-astragaloid* is the first of these; next comes the (a) *anterior calcaneo-astragaloid*, the synovial membrane here serving also for the *astragalo-scaphoid*; (b) the *calcaneo-cuboid* is the third; and (c) the *anterior tarsal synovial membrane*, is the fourth and largest of all, and the most important in a surgical aspect.

It extends between the scaphoid and the three cuneiform and cuboid bones, between the cuneiform bones themselves, between the two out-

FIG. 2.



er cuneiforms, and the bases of the second and third metatarsal bones, and also between the external cuneiform and the cuboid. (*d*) is the articulation between the cuboid and the two last metatarsal bones; and (*e*), that between the internal cuneiform and the metatarsal—not, strictly speaking, tarsal joints.

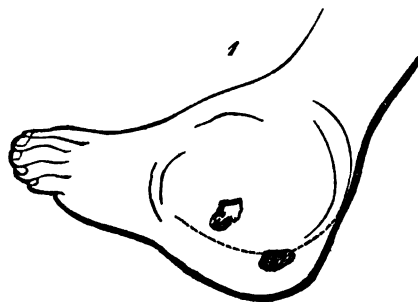
In the vast majority of cases, so far as my experience goes, it is the osseous structures, and not the articulations, which are primarily diseased. The bones, being cancellous, far removed from the centre of circulation, and exposed to alternations of temperature, readily become the seat of congestion and caries, rarely, however, of necrosis; and in strumous subjects not unfrequently fall into a tuberculous condition. Caries, whether simple or tuberculous, once set up in the bones, speedily implicates the articulations secondarily.

Now you can easily conceive, on casting an eye on the arrangement of the tarsal synovial membranes, that the extent of disease will, in a great measure, depend upon its seat. Thus, a person may have disease in the os calcis, extending even to the cuboid, with very little likelihood of its proceeding farther for a length of time. Such disease will be limited to the outer part of the foot, does not involve its integrity, and readily admits of removal by operation. But let him have disease springing up in the scaphoid, or in one of the cuneiform bones, or in the bases of the second or third metatarsal bones, then the morbid action will rapidly spread through the whole of the anterior and inner part of the tarsus, and, in all probability, no resection operation can be advantageously employed. So that the seat of disease influences materially its amount, extent, and the kind of operation required for its removal.

Let us now consider the various bones of the tarsus separately, as primary centres of disease.

The *os calcis* is diseased more frequently than any other bone of the foot, being, from its exposed situation, liable to injuries of all kinds, receiving the weight of the body when alighting on the feet in jumping, and having strong muscles inserted into it. Caries is the disease usually attacking the calcaneum; necrosis very seldom, although we sometimes find a piece of necrosed bone in the centre of a carious cavity. When this bone is diseased, the posterior part of the foot is swollen, and perforated by one or several fistulous openings, through which a probe passes down to, and sinks into, carious bone. On further examination, we find that the rest of the foot is healthy. Having thus limited the disease to the *os calcis*, what course is open to us in the way of curing the patient of the disease? Why, we may of course lay open the sinuses freely by means of a T-shaped incision, and gouge away the diseased osseous structures. This may always be done with success, however extensively the cancellous structure of the bone is involved, provided an external sound shell exists. You have often seen a little girl, who now occasionally attends here amongst the out-patients, upon whom I performed this operation twice, the disease having recurred after the first gouging. So much of the calcaneum was taken away in that case, that a mere shell of bone only remained; and yet the removed bone has been replaced by fibroid tissue, which will in time no doubt ossify. She has a perfectly useful foot, and the only sign of any operation having been performed is a small, depressed cicatrix on the outer side. Indeed, where you have disease limited to the *os calcis*, such an operation as I have just mentioned will generally be attended with an excellent result, and it is but very seldom indeed that complete excision will be required. But in some cases you will find that the morbid action originating in the *os calcis* has not only involved the whole bone, but has extended somewhat beyond it, implicating the calcaneo-astragaloid, or the calcaneo-cuboid articulations, or both. Then you must proceed as I did in the case of a girl who was in the hospital last summer, and of whose foot this drawing was a very accurate representation—Fig. 3 (No.

FIG. 3.



1)—namely, perform complete excision of the whole *os calcis*, and gouge away any diseased



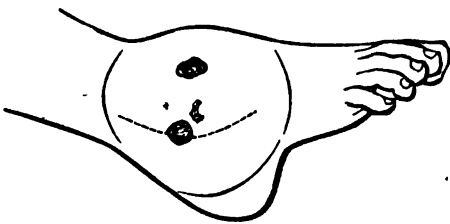
bone that may be met within the astragalus or cuboid. The girl made an excellent recovery; the heel continues somewhat flattened, it is true, but she has a sound and perfectly useful foot, of which this drawing (2) represents the condition



three months after the operation.

The *astragalus* is situated in a position of great surgical importance. Articulating, as it does, with the malleolar arch above, with the calcaneum below, and with the scaphoid in front—forming as it were, the keystone of the foot—it is perfectly evident that any morbid action commencing in it is very likely to spread to and involve all the more important structures of the foot. Seldom, indeed, does disease originating here remain confined to this bone; and, so far as my experience goes, gouging operations, even if performed at an early period, are rarely of much benefit, the morbid action continuing to extend notwithstanding their employment. Indeed, in diseased *astragalus*, I believe that excision ought, as a rule, to be practised in preference to gouging, contrary to what is the case in the calcaneum. In these cases you find—what you see in this drawing, which repre-

FIG. 4.

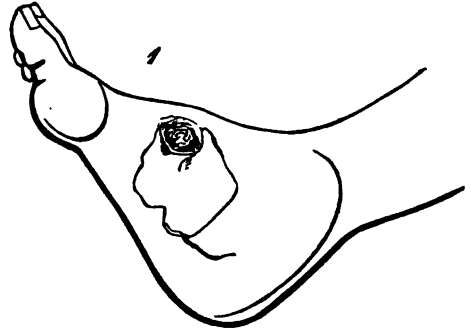


sents the foot of a boy whose *astragalus* I excised—swelling just in front of the malleolar arch, cut with fistulous openings leading down to the diseased *astragalus*; the anterior part of the foot and the heel being quite sound. You may have disease of the ankle-joint itself, depending upon primary disease of the *astragalus* for its origin, and then the laxity, grating, &c., symptomatic of diseased articulation are present. The treatment in such cases consists generally in removing the *astragalus* from its bed, and gouging away any diseased bone which may exist either on the upper surface of the calcaneum or under surface of the malleolar arch. Very large portions of bone may be removed from this situa-

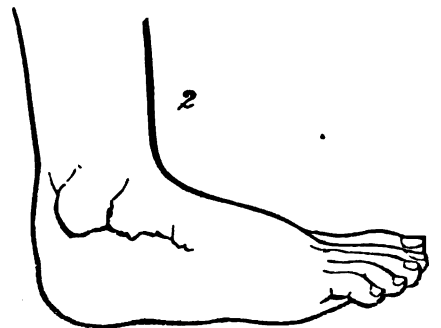
tion. I have taken away the whole of the malleolar arch and *astragalus*, and gouged out the upper surface of the *os calcis* very freely, and yet the patient has recovered with a strong and movable foot, but very little shortened or deformed.

The accompanying cuts (Fig. 5) are taken from a young man on whom I last summer performed the operation just described, and whom you have recently seen at the hospital from time to time. Fig. 5 (1) represents the foot before

FIG. 5.



the operation; Fig. 5 (2) the foot six months



after the removal of the malleolar arch, both malleoli, the *astragalus*, and a portion of the upper surface of the calcaneum. The foot, as you have seen, is perfectly useful and strong, and the false joint at the ankle movable. There are cases, however, in which we find that the disease has extended so far beyond its primary seat that amputation rather than resection is required. But in the majority of instances, removal of the *astragalus* and gouging away the upper surface of the calcaneum will suffice.—In extreme cases, however, you might find it necessary to adopt the practice successfully resorted to by Mr. Thomas Wakely, of excising both bones.

The *scaphoid bone* stands next in importance to the *astragalus* in its power of implicating a great extent of the foot when diseased. The morbid action may extend either backwards, and affect the *astragalus*—in which case you will act much as you would do in disease of the latter bone; or it may pass forwards, and then the whole anterior tarsal synovial membrane be-

comes affected. A bulbous swelling of the anterior part of the foot, perforated by fistulous openings leading to diseased bone,—the heel, astragalus, and ankle-joint being free,—indicate the existence of the condition which I have just named.

How, then, are we to treat disease of the scaphoid extending to the large anterior tarsal synovial membrane? (Fig. 2 c.) Resection in such cases, is, I believe, useless. I have never seen nor heard of that operation being done, and I should imagine that if the scaphoid were excised, the operation would be followed by total disorganization of the foot, requiring amputation. In these cases Chopart's operation is usually the only resource, and should be performed, except in certain instances, where, from the very extensive disorganization of the soft parts, we may require to go farther back.

When the *cuneiform bones* are the seat of caries, you will generally find that the middle cuneiform is the bone primarily affected. Thence the disease extends to the lateral ones, or to the bases of the second and third metatarsal bones. In such cases the anterior tarsal synovial membrane usually becomes extensively implicated, and Chopart's amputation will be required. But if the morbid action continues to be limited to the middle cuneiform and the contiguous metatarsal bones, and the patient's general health is good, removal of the diseased osseous structures by the gouge, with extraction of the carious cuneiform, may be attended by successful results.

The *cuboid* is seldom primarily diseased. I have had two such cases, one of which was successfully treated by gouging; but, in the other—that of a man named J——, whom some of you will recollect—Chopart's amputation became necessary, in consequence of implication of the anterior tarsal synovial membrane.

In many cases of diseased tarsus, as in that forming the text of these remarks, the morbid process is not confined to one, but spreads to several other bones. Here you must be guided in your treatment by the seat and extent of the disease. In one such case—in a lad about sixteen, who was sent to us from Staines—I removed the lower two inches of the fibula, some of the under surface of the tibia, and greater part of the astragalus, os calcis and cuboid, and yet complete recovery took place; and in the man upon whom I operated last week, although nearly the whole of the outer side of the foot was gouged away, I should expect an excellent result were it not that the articulation between the cuboid and external cuneiform bone has been opened, and that (and now you will see the force of the remark I made at the commencement of the lecture), in consequence of this, the disease is likely to extend across the foot, disorganization of the whole foot to take place, and amputation to become necessary.

In conclusion I must warn you not to be in too great a hurry to operate on very young child-

ren. You will find that in infants, and in children under five years of age, caries of the tarsal bones with abscess may frequently be recovered from by proper constitutional and local treatment, conducted on ordinary principles, without the necessity for operative interference.

### Original Papers.]

#### ON THE PRACTICAL VALUE OF PRONE RESPIRATION IN DISEASE.

By CHARLES HUNTER, Esq., M.R.C.S.

No one can call attention to posture an unimportant subject since the Marshall Hall Method of Postural Respiration was given to the world, and its value established beyond doubt by the numerous cases recorded in quick succession in the pages of THE LANCET.

The Marshall Hall Method consists of two parts—firstly, attention to posture; secondly, the performance of artificial respiration. The attention to posture is the all-important part, the essence of the plan of treatment. Hitherto the adoption of the Marshall Hall Method has been in cases of still-birth, and of apnoea from accidental causes. It is, however, applicable in a far wider range; I allude especially to apnoea which may at any time threaten in the course of disease, as I shall show immediately.

Prone respiration, or, as it has been named by Marshall Hall, "Prenopnoea,"\* is as important, if not more so, as I can show, to save or prolong life in the course of disease. This is a new application of the Marshall Hall Method, and of its modification, prenopnoea.†

There are numerous diseases in the course of which the bronchial tubes are apt to get loaded with secretion, or so filled with fluid as to endanger the life of the patient. Chronic bronchitis, the rapid effusion of fluid into the bronchial tubes in the course of Bright's disease, the accumulation of bronchial secretion which so rapidly takes place in cerebral apoplexy may serve as instances.

No case can more strikingly show the value of attention to postural respiration in disease than the following, which came under my care whilst house-surgeon at St. George's Hospital:—

CASE 1.—On Nov. 28th, 1858, at a quarter to eleven P. M., I was called to the Fitzwilliam ward to see one of the patients, who had suddenly been seized with great difficulty of breathing. He had been admitted for some affection of the hand, under the care of Mr. H. C. Johnson, and

\* "I conclude by observing that the principle of prone respiration is of such importance as to demand a new designation to impress it on the attention and the memory. I propose to term it Prenopnoea."

† It was about two years ago, and during the life of Dr. Marshall Hall, that my attention was first drawn to the value of prone respiration in disease, at a time when I was making observations on enlargement of the thyroid gland. I must here observe that the attention of Mr. R. L. Bowles (who, like myself, helped to work out "the problem of postural respiration") has also been drawn to prone respiration in disease, especially with regard to stertor, as he mentioned to me by letter fifteen months ago.

was so far improved that he was shortly to have gone out. I found the patient sitting up in bed, making the most laborious efforts to breathe, with the face dusky, and each respiration giving evidence of much fluid being collected in the bronchial tubes. The pulse was 80 strong, and full.

Having ordered an emetic immediately, I left the ward, but was sent for in about five minutes with the message that the emetic was too late—the man was dying or dead. Hastily returning I found the patient leaning back in bed against pillows. The face was now cold, purple, and clammy to the touch; occasional gasping efforts were being made to breathe, but with little or no effect; the pulse was now scarcely perceptible, and in less than a minute was not to be felt. Respiratory efforts now ceased, and the man was to all appearance dead.

Hopeless as the case seemed, I was unwilling to leave without doing something. I first tried to excite respiration by irritating the back of the fauces, but without the slightest effect; then, turning the body to the prone position, and the head being held by one of the nurses present, I performed artificial respiration for some time, during which the pulse could just at times be felt.

The artificial respiration caused air to go in and out of the lungs. During this time it now and then excited a natural respiratory effort. At the end of a quarter of an hour, the skin of the patient had become decidedly warmer, much mucus had been expelled from the mouth, and the pulse had become stronger and more regular. A teaspoonful of brandy was now occasionally tried by the mouth, but with more harm than good; for the turning the patient from the prone position each time caused the breathing to be worse, and the reflex action of the pharynx being still absent, the liquid could not be swallowed, and caused choking.

In about half an hour, I gradually ceased artificial respiration, as natural breathing gradually returned, still maintaining the prone position; for each attempt to sit him up, or turn him on the back, made the face darker, and caused choking. Expiration had still to be assisted by pressure on the back.—Forty-five minutes: The respiration was now natural and free from rhonchus, but still the prone position was found necessary; the pulse was considerably stronger, the color and temperature of the face was again normal, but the man was not yet sensible. At the end of an hour, an epileptic attack came on, with constant grinding of the teeth, biting of the tongue, rigidity of the intercostal muscles and those of the extremities.

The effect of this attack was to cause lividity of the face, labored respiration, and diminished strength of pulse; and it was some time before these symptoms passed off.

One hour and a half: Breathing still very labored (but now allowing of the supine, or sitting up posture); face still dark; temperature of

the body good; pulse of good strength; pupils contracted and insensible.

As the symptoms now were evidently those of non-oxygenized blood in the system, and the pulse was good, my colleague, Mr. E. D. Tomlinson, bled the man to eight ounces. The state of the breathing and the countenance was a little improved by the venesection.

Nov. 29.—Two A. M.: Pulse 100, quiet; respiration quiet, very slight rhonchus; face slightly dusky; sensibility returning.—Ten A. M.: Perfectly sensible, and able to talk; sitting up in bed, breathing with but little effort. It is interesting that he made his will to day, which he had not done before. The man lived about ten days after the above event, during which time he had numerous attacks of dyspnea, after one of which he sank. In the post-mortem examination it was found that the lungs were much congested, and the kidneys diseased.

*Remarks.*—1. There seemed no doubt in the minds of those present that life was prolonged in the above case, humanly speaking, by artificial respiration and attention to posture.

2. It also appeared evident that any attempt to remove the patient from the prone position, either during the time artificial respiration was being carried on, or for some time after, was to endanger the life of the patient.

3. Considered physiologically, the case was, primarily, apnoea, from a mechanical cause—viz., effusion into the lungs and bronchia, impeding lung action, and the due circulation of blood through the lungs. Secondly asphyxia produced probably in two ways—1st and chiefly, by the mechanical obstruction the state of the lungs offered to the circulation of the blood; 2nd; and towards the close, to the effect of the un-oxygenized blood on the nerves of the heart.

Nor must the state of the nervous system pass unnoticed. There was a progressive diminution of nervous power, loss of sensation, and absence of reflex action; and, after a time, a comatose state of the brain, with occasional spasms of the muscles of an epileptic character. Had the narcotized state of the brain continued longer than it did, death from apnoea might have been expected; but, in this case, secondary apnoea from absence of nervous power was the result.

CASE 2.—On the 24th November, 1858, at a quarter to one P. M., a man was brought into St. George's Hospital in a state of insensibility from a blow on the head, occasioned by a fall of bricks; there was a general bruising of the scalp, but no fracture to be felt, and no bleeding from the ears. Soon after admission he became sensible, noisy, and restless. At ten P. M. he was comatose; pupils contracted: respiration 20, with difficulty, and slight stertor; pulse 80, full and strong; sensibility of skin almost absent.—Twelve hours after admission, the man appeared dying; the face was almost black; res-

\* See a well-marked case of secondary apnoea, in which artificial respiration and prone position were found necessary.—*Medical Gazette*, Nov. 6th, 1858.

piration 16, or less, a minute, each act being made with the greatest difficulty, the air having to pass through much frothy mucus, which it did with a slow gurgling sound; pulse still 80, full and strong; pupils quite insensible. Whilst he was in this state I bled him to sixteen ounces; the face improved whilst he was being bled, and for a few minutes the breathing was better but no longer. Speedy death from apnoea again threatened. I then turned the patient well over towards the prone position. The effect of this change in position was striking; the breathing was immediately and decidedly relieved; the number of respirations a minute became 20, instead of 16 or less; all stertor ceased. The breathing was as of one asleep; but the chief point of interest was, that *with each expiration a large quantity of frothy mucus rolled from the mouth.* At the end of half an hour the respiration was 24, quiet, full, and strong; no stertor, no gurgling. All the lividity of the face had disappeared, but its temperature was not quite restored: the pupils were contracted. A certain degree of consciousness returned for a few minutes about this time. The patient lived from seven to eight hours after the prone position was adopted.

*Remarks.*—I believe the respiration is always more or less affected in cases of coma, especially if it lasts any length of time. In the case just given, death, would, in all probability, have occurred about seven hours before it ultimately did had no change been made in the position—and, in fact, the supine position been continued. The alteration in position did this: it got rid of the secretion accumulated in the lungs and air-passages; it kept the larynx open; it delayed death. There are cases of partial compression of the nervous system, where coma exists, in which "we know from physiology," says Alison, "that the part of the nervous system which must be specially affected in these cases, where the failure of respiration is the immediate cause of death, must be at the sides of the medulla oblongata; but the part visibly injured is often considerably distant from this."\* In such cases as these, prone respiration may save life.

In conclusion, preapnoea, or prone respiration, is as important, prophylactically, in threatening apnoea from injury or disease, as the Marshall Hall Method is where that stage of apnoea has set in requiring artificial respiration.

Wilton-place, Belgrave-square, June, 1859.

## ON A CASE OF PUTRID SORE-THROAT.

WITH REMARKS.

By WM. THOS. FERNIE, Esq., M.R.C.S., Hursley.

At the present time a measure of general professional interest, and perhaps instruction, is attached to every detailed instance of malig-

nant sore-throat; so that, without further apology, I am induced to transmit notes of the following case which has recently occurred in my own house, under my continued personal observation.

In February last, my groom, a remarkably steady, sober young man, aged twenty years, of a thin, spare habit, pale complexion, and bilious temperament, was attacked with ulcerated sore-throat, which, though more than ordinarily persistent in duration, was superficial, and characterized by no unusual symptoms. This yielded after six or seven days to quinine, with chlorate of potash, astringent gargles, beef-tea, with wine, and other tonic treatment, leaving the patient in somewhat weak and impaired health. However, he quickly resumed his ordinary occupation, and continued, apparently convalescent, on restorating regimen until the middle of April, when, being questioned about his again looking ill, he complained that the soreness of his throat had returned. At this time I observed that the entire posterior fauces, tonsils, and uvula, were highly congested, of a livid, angry appearance, and coated with a viscid, tenacious secretion over their general surface. A small, yellow, ragged slough also appeared on the anterior aspect of the right amygdala. To this the caustic pencil was at once freely applied underneath and around its margin. A gargle of sulphate of zinc with muriatic acid was ordered to be frequently used, and twenty minims of muriated tincture of iron, with two grains of quinine, were exhibited in water every four hours. The pulse at this time was quick, but feeble and thready, with much general languor and depression. A liberal allowance of beef-tea, with port wine, was directed to be supplied, and an alternate succession of mustard poultices and hot fomentations was applied to the throat.

On the next morning I found that the size of the slough had increased with dire rapidity, almost the entire right tonsil, with its pillars, being already involved, while the uvula presented an ugly ash-colored spot; the viscid secretion had become more copious and tenacious, being foetid, and of a darker tinge. Likewise an offensive muco-purulent discharge now began to issue from both nostrils, and increased in quantity during the day. The tongue had become dry, brown, and thickly coated, whilst the pulse indicated an increased degree of general asthenic prostration.

In conjunction with my brother, then staying with me (from the Reading Hospital), I thoroughly applied with a probang to the whole of the affected surface a strong solution of nitrate of silver (one drachm to an ounce of distilled water), having first mopped away all the loose slough and clinging secretion. One drachm doses of the concentrated liquor cinchonæ cordifoliæ were alternated with those of the tincture of iron, with quinine, every three hours; brandy, with egg, was administered at

\* Alison's Outlines of Pathology and Practice of Medicine, Vol. 1, p. 2.

frequent intervals, in addition to the beef-tea and wine. Chlorine was evolved about the chamber, the muriate and gargle being continued; also a dose of castor oil was given to carry off whatever foetid sputa might have been swallowed, no action of the bowels having taken place for two days previously. The patient was placed in a large, airy, and otherwise empty room. Towards evening, confusion of mind and low muttering delirium began to supervene, meanwhile the act of swallowing remained practicable, without much apparent difficulty; neither did any external swelling of the throat or glandular enlargement impede ready respiration. The semi-conscious condition continued during the night, with some intermission of troubled sleep.

On the morning of the third day matters were still worse: the slough had now involved nearly all the textures of the throat; the pulse told of circulatory powers more and more enfeebled. On being raised in bed, that the throat might be examined, the patient immediately fainted. The extremities now assumed a cold, livid, and shrunken character. Mr. Butler, surgeon to the County Hospital, very kindly came over to see the case, but could suggest no further treatment than the constant pouring in of powerful stimulants, which, though taken to the last, tended in no degree to resuscitate the failing powers. As the function of swallowing remained available, stimulating enemata did not seem to be called for. Towards evening, through excess of exhaustion, the patient quietly died.

I assume that some *specific* cause must have originated these two attacks, so quickly consecutive in a subject to whom such an affection had been hitherto unknown—a cause, too, not to be ascribed, in a healthy country village, to any local noxious malaria, or to an enervating social position. Before coming to me, ten months since, this servant had resided for six years in uninterrupted good health with my next-door neighbor. His habits of life were singularly regular, and free from all excess.

I would rather regard the case as one of those said by Dr. Barlow (*vide* "Practice of Medicine") to occur as an occasional form of "scarlatina maligna." This author teaches us that "cases now and then appear of putrid sloughing of the throat without any rash whatever, tending rapidly to death by sinking, the true nature of which is rendered manifest by subsequent cases of scarlatina obviously traceable to communication with the patient so affected."

I am led thus to look upon the case now under notice—not, indeed, because scarlatina has since indubitably appeared in my house, but because both before and during the interval between the two attacks of sore-throat experienced by my late patient I was continually engaged in close attendance on a family in a neighboring hamlet, numerous members of which were severely af-

fected with scarlet fever; this attendance must have necessarily entailed the repeated infection of my personal attire with the active fomites of that disease, and their consequent importation into my own house. Nor is it unwarrantably hypothetical to suppose that my servant, being constitutionally liable to engender the malady, became an unfortunate *nidus* for prompt propagation of the virus, a second (and perhaps larger) dose of which directly laid prostrate his whole vital energies, Nature at once despairing of all *erupting* resistance and relief. I may add that a case of scarlet fever has since appeared in our village, hitherto free from that disease.

My own limited experience relative to the serious diphtheroid affections now widely prevalent does not enable me to arrive at fuller conclusions concerning the identity which I here suppose of the poisons of scarlet fever and of the present fatal form of sore-throat. I would gladly learn whether or not the two affections have been elsewhere similarly contemporary. Mr. Butler tells me that, since seeing the above case, he has met with others of like character in Winchester, where also scarlet fever has lately much prevailed. In one or two aggravated instances, he has found the free exhibition of yeast particularly useful, with the external application of a blister to the throat.

July, 1869.

#### ON THE USE OF PIGMENTUM ALBUM IN SOME CUTANEOUS MALADIES.

BY ALFRED FREER, ESQUIRE, M.R.C.S.

I wish to call the attention of the profession to the great value of white paint as a remedial agent. The preparation itself is nothing more than a mixture of linseed oil and carbonate of lead, rubbed up into a semi-liquid substance. I first became acquainted with its great efficacy in the treatment of erysipelas by my late father, and by my brother. It is, indeed, in this disease that the most striking benefit results from its application. I have never yet met with a case of this nature where it has not done immense good. I find it far superior to lead lotions, mucilage, hot fomentations, nitrate of silver, or collodion. After erysipelas, the paint proves of the greatest service perhaps in eczema in its several forms. In chronic eczematous eruptions of the aged it affords much comfort, and often speedily effects a cure. Of late years I have extended its employment to other complaints of the skin, including herpes in its several forms. I have tried it in some cases of small pox, with the view of diminishing the number of vesicles on the face, and of controlling their size. The latter indication it seems likely to fulfil; but I cannot speak with confidence about the former, the papules being already numerous at the time of my visit. I have also used it in several cases of carbuncle and furuncle. The first was in an instance of a huge carbuncle, situated on the loin of a man, and

rapidly extending, notwithstanding free incisions, linseed poultices, and appropriate constitutional treatment. I applied a thick, wide circle of paint round the swelling, and dressed with resin ointment and cotton wool. There was no advance of the disease from that time, the centres rapidly broke up, and recovery took place. It is, however, probable, that the omission of the warm poultice may have contributed to the improvement, for I have often observed that warm poultices, however well made, seem to foster and spread carbuncular inflammations.

The paint seems to act in two ways: first, and chiefly, as an efficient excluder of the air—that great irritant to the cutaneous surface when disordered; and, secondly, as a direct sedative to the sentient nerve filaments, rendering them less prone to become involved in inflammatory action. In boils it relieves the painful tension, and favors resolution. In some forms of painful ulcers of the leg, of a small size, it gives great relief. In galling of the skin, where anasarca is present, it is also of use, and is the best application that we have in burns of the first and second degree. But it is in erysipelas that its triumph is most manifest; the patient soon finds the comfort of it; the tight shining skin soon becomes wrinkled and shrunken; indeed, the inflammation very rarely extends after the second or third painting.

All my friends to whom I have recommended the pigmentum album speak highly of it; and one, who is a surgeon in the Peninsular and Oriental Company's service, has used it for the last two years with great success. The manner of applying it is by means of a feather, painting the affected parts and *a little beyond*, and laying on a fresh coat every two hours or so, until a thick layer is obtained, and then sufficiently often to maintain a covering. In erysipelas, it peels off in a week or so with the shed cuticle, leaving beneath a smooth, clean, healthy surface. Patients are struck with the benefit they derive from its employment.

June, 1859.

## ON THE RELATION OF ANATOMY TO PHYSIOLOGY AND PATHOLOGY:

BEING A SEQUEL TO

"THE LIFE AND LABORS OF XAVIER BICHAT."

By R. KNOX, M.D., F.R.S.E., F.R.C.S.E.,

LECTURER ON ANATOMY, AND CORRESPONDING MEMBER OF THE IMPERIAL ACADEMY OF MEDICINE OF FRANCE.

ANATOMY, properly so called, is a department of knowledge standing, as it were, apart from physiology, pathology, and therapeutics, although directly or indirectly these are more or less intimately connected with it. It would still exist although medicine and surgery were swept away, or reduced, the former to a mere craft, the latter to a mechanical employment. To connect them together has ever been the aim of all right-minded inquirers into truth; to show how the anatomy of healthy tissues, structures, and

organs explains, to a certain extent at least, their functions; and how the anatomy of diseased and abnormal structures affords some explanation of the diseased actions leading to these results; and, finally, to connect these with the action of agents calculated to convert the diseased into healthy action. On the discovery of these relations rests what is called rational medicine; failing their discovery, anatomy, whether healthy or pathological, remains still the same; if based on facts, these facts must persist, whether they aid or oppose medical and surgical theories. Men prone to wide generalizations have attempted a solution of the difficult questions connected with this subject, by presupposing the existence of certain principles not to be disputed. The most remarkable of these systems, as they are called, as being the most philosophical, was the system of Brown. Prior to that, the systems of humoralism and solidism had prevailed and exercised their influence over practical medicine. Since then I have witnessed the rise and fall of Broussaism and Pinelism. Other isms will follow, no doubt. The doctrines of Hamilton, introduced into England by Abernethy, still hold their ground, and, indeed, form the basis of the modern practice of medicine. They have a quasi-philosophic character, and seem reasonable and rational. But anatomy, whether morbid or healthy, has in reality nothing to do with such systems; neither does it enlighten us as to the action of specifics, the most important feature in medical practice. Prior to the introduction of the use of powerful microscopes, anatomy had nothing theoretical in its character. The tissues described by Bichat could be seen and handled, dissected and exhibited. No one disputed them. The morbid structures which could be shown to be the normal tissues somewhat altered by inflammatory or other processes tolerably well understood, were described as such. Products such as tumors, especially those of a malignant character, were admitted generally to be inexplicable, and were described as we do objects of natural history. The microscope has changed all this. By its means we now attempt to ascertain how the primitive tissues of Bichat are formed. Not content with saying that all must come from the blood, we wish to know the steps by which this singular metamorphosis takes place; and having succeeded, as many think, in this re-discovery—namely, of the origin of the healthy organization, it was natural to direct the same instrument of research to diseased structures, with a view to discover how these are formed; to ascertain, if possible, whether they are poured out ready formed from the blood, in which case pathological chemistry would take the place of morbid anatomy; or if they originate in an altered condition of the nutritive structures already formed; or whether they come wholly from without.

Thus was hypothesis introduced into pathological anatomy. But no solid objection can be

made to this step; for, as I shall endeavor to show, the morbid anatomy which preceded the use of the microscope was almost wholly occupied with investigating the *effects*, not the causes, of disease. Great names exercise an influence on human ideas, which will exist for ages. Perhaps even yet there may be some who mistake the labors of the illustrious Morgagni, and the clear-headed, accurately-observing Baillie, for inquiries into the causes of disease. That Bichât was aware of this error I feel persuaded, for so great a genius scarcely ever errs; but the means to correct the mistake were not within his reach, and one of the objects of this memoir is to show how he failed; a second is to determine, if possible, the precise relation of anatomy, properly so called, to the new views which occupy, as it were, a middle ground between the *visible* to all sights and the *visible only* under certain circumstances—between the structures which can be traced, handled, dissected, and those which can be seen only in fragments, disjointed and disconnected. It is this neutral ground which the modern physiologist and pathologist attempts to explore; it was unknown to Haller and to Bichât, to Hunter and to Baillie. And this could readily, I think, be proved, were it worth while again to examine records familiar enough to me; but this I think unnecessary. Medicine, starting from no fixed point, having no base in science, and, from its origin, speculative and conjectural, can have no literature worthy the name, or meriting a deep inquiry into the past. Occupied with the difficult problem of life in its healthy, and, above all, in its diseased conditions, it could not well be otherwise. Anatomy, physiology, and pathology stand nearly as much apart as they did in the times of Hippocrates. Before the circulation of the blood was discovered—before anatomy, properly so called, was known, experience had taught men that, under certain circumstances, it was advisable to withdraw from the circulating mass a small quantity of the vital fluid: nothing more is known now. After 4000 years' experience, physicians even now dispute, with the bitterest acrimony, the amount to be withdrawn, and the moment to be selected for the operation. To speak of such things as if they were based on any principle were simply ridiculous; but, above all, is it absurd to say, that they have a basis in anatomy. To render this clear, we have only to inquire into the relations of modern pathology to physiology, and of this to anatomy. Practical medicine, or the application of remedial agents, can have little or no direct relation to either of these sciences.

Before the era of the illustrious Bichât, Haller and Hunter had run their course. Morgagni had labored in the vast field of what was then called morbid anatomy, followed by Baillie, he by Cruveilhier, who followed Bichât, and with whom may be said to terminate the age of morbid anatomists, properly so called. Thus the most exact anatomists, both of the age which

preceded the discovery of true descriptive anatomy and of the philosophic anatomy of tissues (both of which we owe to Bichât), and of that which followed, had done their best with the methods in their hands to connect anatomy, properly so called, with physiology and pathology, and had failed, each discovering in the course of his studious, anxious, and comparatively successful career, that something was wanting to enable him fully to comprehend the normal function of men and animals—that is, physiology; and the abnormal conditions of the same structures, which means disease. As a natural result of such a discovery, each took to the experimental method. Haller, the energetic, laborious, overbearing, insolent Gottingen official, whose *naturel* it was to carry everything by force, was amongst the foremost to endeavor by experiment to compel Nature to reveal her secrets to the experimenter, to the manipulator of the scalpel, to him who determines the functions of the head by cutting it off in a living animal. It is quite a mistake to suppose that Haller or Hunter had overlooked the experimental in physiology; a genius like Hunter's overlooks nothing. Such men do not remain contented with truisms. In a word, having exhausted the resources of the minute anatomy of his day, of the descriptive in so far as was known to him, and of the philosophic anatomy of tissue in the light he viewed it—which, it is true, was neither accurate nor profound—he, of necessity, had recourse to experiment. Bichât, with other and stronger lights—for he held in his hand the torch of genius—followed in the same track. But his was no hap-hazard course; he followed a direct aim, and with what success need not now be told. The gleanings he left were carefully collected, and made the most of, by a school of which Magendie was the undisputed leader. That physiology made some progress from this movement, I am free to admit. Still there remained much to be done. Bichât had methodized it, arranged it, added new facts, worked it up into a new system, and given it a language of its own. Genius, far-seeing as it always is, led him to neglect, to overlook no mode of inquiry. The chemistry of the day he employed as he best could; it was coarse, and in many things visionary. The microscope had not been improved, and therefore in his hands led to no important results. Even the principles of general physics had not been applied in a correct way to the phenomena of life, and thus was he compelled to adopt, as a starting-point, in his view of living nature, an unknown principle—the vital, whose field of operation and of influence over living beings he, notwithstanding, narrowed to the utmost of his ability. The character of the science of his day left him no choice other than the investigating the results of the action of that principle, which with him stood in the place of the first of secondary causes. When simple observation failed, he tried the microscope, chemical analysis, and the



corroborative information to be derived from experiments on living animals, and from human and comparative pathology. He started, it is true, with an hypothesis; but so did Newton. The theories of a vital principle and of gravitation are both liable to be set aside by higher generalizations.

(To be continued.)

SOME REMARKS UPON THE CRITICISMS THAT HAVE RECENTLY BEEN PASSED UPON

# THE DIGESTION OF ALBUMINOUS BODIES BY THE PANCREAS.\*

By LUCIEN CORVISART.

The views propounded in my former paper, "On the Digestion of Azotized Alimentary Bodies by the Pancreas" (V. Masson, Paris, 1857; also *THE LANCET*, May, 1859), having, in one quarter, elicited the warmest commendations (Schmidt's "Jahrbücher," 1858, pp. 21 and 25: Professor O. Funke); in another, encountered the most absolute rejection ("Nachrichten Götting," 14, 1858: Kefestein and Halwachs); and again, having, in a third, received formal confirmation ("Verd. des Eiweis, in *Zeitschrift für Ration. Med.*," dritte r., bd. vii., 1859: Professor G. Meissner),—the duty now devolves upon me of supporting these views by a further contribution to the subject.

The influence exerted by the pancreatic juice upon albuminous alimentary substances was affirmed by Purkinje and Pappenheim as far back as 1836, and was no sooner affirmed than denied. As a consequence, one was thrown back upon the vague and inexact notions at that time entertained upon this matter, to the effect that the digestion of alimentary bodies in the intestine proper was due to the operation upon them of a mixture of the several juices poured into the canal. Some physiologists considered, and most erroneously, that even in the intestine the gastric juice was mainly concerned in the digestive process. Others believed that the liquefaction of the food was rather to be ascribed to the united action of the pancreatic and biliary secretions (Bérard†). A third sect boldly affirmed that there resulted a new digestive power from the mixture of the bile and the pancreatic juice (C. Bernard‡); asserting, moreover, that this mixed product exerted its influence only upon such portions of the food as should previously have been prepared for the admixture by cooking, or by the solvent powers of the gastric juice.†

Such was the state of this question, interesting though it be alike, and in an extreme degree, to physiology, therapeutics, and diagnostic

medicine—observed as it was by an utter absence of even one single series of precise and searching experiments.

The object I had in view in my former communication was to show, by the narration of a series of experiments—which M. Funke\* has kindly qualified as painstaking and conscientious,—that the pancreatic juice dissolves alimentary albuminous substances by a power of its own, the energy of which is fully equal to that possessed by the stomach: a power inherent in itself, absolutely independent of the intestinal secretion, the bile or any preparation within the stomach; a consideration which fairly entitles us to regard the pancreas as the supplemental organ of the latter viscus,—the more so as, like the stomach, it transforms nitrogenous materials into peptones or albuminous ones.

Moreover, in addition, many other conclusions, arranged in the form of propositions, and numbering forty-three, were dwelt upon in the paper alluded to.

It is only in Germany that cultivators of physiology sufficiently assiduous have been found to bring the test of experimental criticism to bear upon this treatise; and even in that country a few special points only have been dwelt upon among those the solution of which I believe I had achieved in the work to which I refer. Hence it happens that the digestive solution of hard albumen is the only point that has been subjected to thorough investigation.

Scarcely had M. Funke affirmed that, for the refutation of the view enunciated in my essay, a large number of experiments would be indispensable, than Messrs. Kefestein and Halwachs asserted that my conclusions were absolutely erroneous. On the other hand, some few months subsequently, M. Meissner testified to the soundness of these conclusions; and stated, moreover, that not only is it true that the pancreas, by a special property, possesses of itself the power of dissolving albumen, but, further, that it is able to transform this substance into peptone.

I shall for the present concern myself solely with meeting the arguments that have been put forward in opposition to the views to which I have referred.

Istly. Their rejection by Messrs. Kefestein and Halwachs. The work presented by these gentlemen to the Academy of Sciences at Göttingen terminates with this conclusion: "We entirely dissent from the views of M. Corvisart. The pancreatic juice is incapable of dissolving albumen." Now, to the dictum of these gentlemen it would have been easy to oppose the results of my numerous experiments—experiments which have been subjected to the strictest verification. Nevertheless, I determined upon offering to the Academy my attacked essay, and solicited them to accept for my reply

\* Schmidt's Jahrbücher. May, 1859.

† Cours de Physiologie, tom. II., p. 439, 1850. Bérard.

‡ "It is a new intestinal liquid." Cf. Bernard, *Léçons de Physiologie*, tom. II., p. 442, 1856. "The mixture of the bil- and pancreatic juice results in a mixed liquid of special properties." p. 442. "The influence exerted on azotized materials by the pancreatic juice does not seem to be one naturally its own." p. 441.

§ "At all events it does not digest the food, except such as shall previously have been prepared." *Loc cit.*, p. 443.

\* Schmidt's Jahrbücher, 1858, p. 22.

on account of one experiment only, the details of which are as follows :—

The subject of the experiment was a young dog, weighing about twenty-four pounds, and previously deprived for a space of fifteen hours of both solid and liquid food. 34 grammes of hardened white of eggs, boiled in water for fifteen minutes, separated from the shells and yolk, and roughly crumbled in a cloth, were put into the duodenum, and ligatures placed around its first and third portions. For the purpose of bringing about digestion simultaneously in the stomach, 20 grammes of the same albumen were placed in that viscus, all egress to the surface being prevented by the ligature at the first portion of the duodenum, and by another ligature placed around the cervical termination of the œsophagus. During the operation, the pancreas was not disturbed in the slightest degree; indeed, it was not even seen. Tubes were employed for the purpose of introducing the albumen at the same instant into the stomach and intestine; and all those operative precautions to which reference is made at page 9 of my essay, and which seemed to me indispensable to the success of the operation, were most scrupulously observed. Fifteen hours afterwards, the dog was killed by strangulation. The duodenum presented a swollen, red, and turbid appearance; taken out of the abdominal cavity, and emptied of its contents, we found 158 grammes of a viscous liquid, of neutral, or at most of a feebly alkaline, reaction, and altogether destitute of putrefactive odor. The intestine displayed no traces of the coagulated albumen placed within it in the first instance, if we except five or six soft and attenuated fragments, recognisable it is true, but not amounting in weight to so much even as 4 gr.

*A. It follows, therefore, that the mixed fluid in the duodenum is capable of digesting albumen.*

The stomach in the above experiment was found to contain 250 gr. of an acid liquid. The hard albumen had in like manner disappeared by solution.

The pancreas of the same dog, examined when the digestive process was at its acme, both in the stomach and in the duodenum, presented the following features :—The color was a faint pink. It showed no signs of tearing or of ecchymosis. It was removed, cut up into small pieces, and placed in 200 grammes of water, maintained for twenty-four hours in a closed glass vessel, at a temperature varying from 7° to 12° cent.; the product was then filtrated, and I collected 180 grammes of a reddish, viscous fluid, which displayed neither a marked acidity nor alkalinity to test paper of extreme sensibility.

This pancreatic infusion was tried upon ovalbumen, cooked as in the preceding experiment, and pounded. After remaining four hours only in the stove, at a temperature of 40° cent., the number of grammes of albumen which had dis-

appeared amounted to 45 of the albumen employed in first instance.

*B. Hence it follows that a simple infusion of pancreas can, by a power of its own, and without any assistance from intestinal secretions or bile, &c., digest a large quantity of coagulated albumen.*

By the action of a few grammes of the infusion, I was enabled to assign to it a digestive power over fresh uncooked fibrine, which calculated proportionately for an infusion of the whole of a pancreas, would suffice for the digestion of 60 grammes of fibrine.

Both the digestions by means, of pancreatic infusions, and the vivisection itself, were performed in the presence of gentlemen at that time in Paris—viz., Dr. Kuhne, pupil of Messieurs. Wöhler and Wagner; and Dr. Snellen, of Utrecht, pupil of M. Donders. (Extract from my letter to the Acad. des Sciences de Göttingen. See Götting. Nachr., No. 6, March, 1859, and Zeitschrift für Ration. Med., of Henle and Pfeuffer, 1859.)

It will be remarked that these several quantities—45 grammes of albumen, 60 of fibrine—amount as nearly as possible to within a few grammes of the quantities I had specified in my essay two years before. Messrs. Kefestein and Halwachs have, nevertheless, affirmed that their experiments were more exact than any others that had been performed. But the exactness of their proceedings began only at that stage when the stove came into requisition, whilst, in fact, it was of the highest importance that such exactness should begin in the very abdomen of the animal whose function they sought to determine. These gentlemen were not sufficiently careful in guarding against fallacy—1stly, inasmuch as they employed the pancreatic juice of an animal unfortunately laboring for eight days under a fistula; 2ndly, as they made infusions of the pancreas without being mindful of selecting the gland at a fixed and suitable period of the digestive process.

1st.—I had forewarned experimentalists in my paper that the results obtained by means of the tubes appended to the excretory canal—that is to say, the pancreatic fistulæ—would be so various that it would be impossible to arrive at any definite conclusions by means of them. Messrs. K. and H. continued to employ this mode of procedure in carrying out their first series of experiments. The result has been that they have secured none but negative results. They, moreover, placed themselves in conditions most unfavorable to success by an ill-judged excess of experimental seal, by which they assigned the preference, both in the collecting the juice and in the carrying out the experiment, to that secretion of the pancreas poured out subsequently to an irritation lasting eight days without intermission and conveyed by the tube, over that secretion formed immediately after the performance of the operation.

It is self-evident that the pancreatic juice collected almost at the moment of the operation alone approximates to the normal secretion, the first quantity which drains away being *that which was already secreted in its physiological integrity in the gland prior to the operation*. The longer the interval permitted to elapse, the further does the secretion depart from the true physiological type. Every organ, in fact, possesses its own special sensibility. The eye cannot, like the mouth, tolerate the presence of a grain of sand. The pancreas in no way habituates itself to the existence of fistulæ as does the stomach, designed, moreover, as is this latter for the contact of foreign bodies.

On the one hand, pancreatic fistulæ, far from being capable of enduring for years, like those of the stomach, end fatally in a few days, or at most in a few weeks. On the other hand, in the case of a pancreatic fistula, the properties of the pancreatic juice begin to deteriorate considerably after a lapse of two, or at most of three, days. This is owing either to a diminution in the weight of the solid constituents, or to an alteration in the properties of the secreted ferments, without diminution of weight. By the eighth day, the deterioration is at its maximum. At this time, the pancreatic secretion is in the condition it assumes when it has been made to boil. It has lost all potency over albuminous bodies, although it is still capable of forming an emulsion with fat, and of imparting an alkaline reaction.

The mode of procedure adopted by Messrs. Kefestein and Halwachs with fistulæ will always be productive of negative results.

It is indispensable, when we desire to obtain pancreatic juice as nearly as possible in its normal condition, that that secretion be chosen which was formed in the gland prior to vivisection—that is to say, *that juice which flows forth with upon the operation*.

*Upon the fulfilment of this condition depends the superiority of the infusion of a pancreas taken from an animal at the moment of killing it: for if the pancreas be removed within a few seconds after the animal has been killed, the infusion takes hold of the juice normally secreted during life, and which has not yet escaped from the gland.*

2ndly.—This proceeding has furnished the material for the second series of experiments of Messrs. Kefestein and Halwachs.

But here, again, they have erred in a most marked degree. It is not sufficient that a secreting organ be taken, in order to obtain its secretion, forthwith upon the death of the animal. The gland must be secured at that moment when its secreting activity is at its height. This precaution has been neglected by Messrs. Kefestein and Halwachs; and to this omission is to be ascribed the confirmation of the negative results they had obtained.

With regard to the experiments detailed in my former paper, I may state that they were per-

formed with infusions of the pancreas taken from animals in whom the duodenum and stomach were full at the moment of killing.

M. Meissner has distinctly affirmed that he has obtained active infusions by taking the precaution of securing the pancreas during the period of digestion. This precaution is indispensable.

I may add, *that if a young and healthy dog be fed with mixed and abundant diet, and that if it be killed towards the fifth or sixth hour after the meal, and the pancreas be then removed, the infusion of the gland will possess the highest\* digestive activity.*† There is, in reality, a fasting condition of the duodenum, which is not identical with the similar condition of the stomach; in like manner, the fasting condition of the stomach is not identical with that of the mouth. It is highly probable that some little fluid may escape from the pancreas immediately upon the reception of food from the stomach; but the period of greatest glandular activity, of the highest efficiency of the pancreatic juice, is at that moment when, the stomach having performed its function, the duodenum begins to act in its turn. This period, in the dog, is attained towards the fifth or sixth hour. At that time, the stomach still contains some food, and the duodenum contains some already. Before this period is attained, the duodenum is still in its fasting condition, and the pancreas inactive; subsequently to it, again, the pancreas becomes exhausted.

Montègre went so far as obstinately to deny the digestive action of the gastric juice, and even its acidity, for the reason that he was accustomed to examine the secretion during the condition of fasting. The same error has induced Messrs. Kefestein and Halwachs to deny to the pancreatic juice all digestive power over albumen. Their good faith, it is to be observed, is entirely foreign to the question; whoever imitates them will see, like them, negative results.

3rdly.—*Researches of M. Meissner upon the function of the pancreas.* Following upon Messrs. Kefestein and Halwachs, Professor Meissner published in the "Zeitschrift für Rational, Medic.," of April, 1859, (having previously read an account of them as early as the autumn of 1856, at the Scientific Congress of Carlsruhe,) the experiments which led him to affirm most positively, not only the solution of

\* At such a period of digestion, the pancreatic juice is so energetic, that if one omits to arrest the infusion of this gland at the proper time, this latter, if it have been cut up in very small pieces, in part disappears, dissolved and digested by its own proper juice, which has escaped from the channels in which, normally, it is confined during life.

† The infusion made in compliance with these conditions is frequently able to digest 20 or 30 grammes of fibrine in the cold, and in but a few hours (10° cent.)

‡ I would add, that on preparing for purposes of study an infusion of pancreas, it is necessary to avoid crushing the gland, or agitating it too frequently in the water, or protracting the infusion beyond the period when the liquor becomes clouded. Under all the circumstances, one perceives by this last sign, that the juice is beginning to act upon the fatty matters in the gland itself; at a later period it will have begun to act upon the azotized substance, since, like the gastric juice, the pancreatic juice exhausts itself by agitation. Commonly, an infusion which is long a-filtering, and is cloudy, has partly lost its efficacy, unless the operation is carried at a very low temperature—seven to eight degrees cent. Rapidity is the rule in the preparation of the infusion.

albuminous bodies by the pancreas, apart from all putrefaction, but the transformation of these bodies into peptone, as I had previously maintained. M. Meissner states: "The results at which I have arrived completely confirm those obtained by M. Corvisart, with *this restriction, that it is necessary that the pancreatic juice be acid*, and not neutral, alkaline, or acid indifferently." I had, in fact, stated in the ninth proposition, "The pancreatic juice possesses the special property of acting efficiently, whether in the alkaline, neutral, or acid state."

I beg to refer to pages 8, 29, 32, and 33 of my essay, where is detailed the digestion of albumen brought about either naturally into the duodenum, or by employing the stove with pancreatic juice by itself, and most effectively performed, the reaction being neutral, or even alkaline; and I would add that I was led to assert the existence of this neutrality, not only from my belief in its verification, as far as albumen was concerned, but inasmuch as my experiments on digestion, repeated on fibrine, (pp. 36, 40, 42;) cellular tissue and gelatine, (pp. 67, and 78;) on muscular tissue and on caseine, (pp. 92, 98,) were attended by similar results.

Moreover, in these comparative experiments, I was not dealing with imponderable quantities—quantities difficult to estimate; but with 20, 30, or 40 grammes of the articles of food, the digestion of which was completed under the influence of an infusion of a dog's pancreas, alkaline, acid, or neutral.

The objection of M. Meissner led me to investigate anew whether the words "equally well" of my ninth proposition were rigorously correct. I have consulted the records of my experiments. I have taken into consideration the figures indicating the weight of albumen digested by some of the same pancreatic juice, (but varied in such a manner that one solution was neutral, a second alkaline, a third acid.) I noticed differences, it is true, but these amounted at most to a few grammes, and were so slight in themselves, that at this moment it would be impossible for me to say whether, 40 grammes of albumen being experimented upon, four grammes more are digested by the pancreatic secretion being acid or alkaline. This indifference was likewise displayed on placing food in the closed duodenum. At the moment the animal was killed, the reaction was found to be at one time acid, at another neutral, and at a third time alkaline; the weight of the material digested under those varying conditions being subject to but little alteration.

In conclusion, I would remark that during the experiment, the minutes of which have been drawn up, the attention of Messrs. Kühne, Snellen, and myself was specially directed to the point in dispute. The minutes run as follows:—

With regard to the duodenum: "The duodenum was found to contain 150 gr. of a viscous liquid; neutral, or but very faintly alkaline; having no putrefactive smell, and showing no

traces of the 34 grammes of the coagulated albumen placed within it in the first instance, with the exception of five or six soft fragments, which, though recognisable, did not amount in weight to as much as 4 grammes."

With regard to the pancreatic infusion: "After remaining four hours in the stove, the quantity of solid albumen which had disappeared amounted to 45 grammes of the albumen originally employed;" and further, it is stated that "before the albumen was used, the infusion displayed to litmus or turmeric papers of great tenacity no noticeable traces either of acidity or alkalinity."

The weight attaching to the researches of M. Meissner urges me to solicit most earnestly for further investigations, which, doubtless, will not fail to be productive of some explanation of the cause of the discrepancy to which this special point has given rise between us.

#### CONSERVATIVE SURGERY: TREATMENT OF A SWORD-WOUND OF THE KNEE

By A. M. GARDEN, Esq., M.R.C.S.,

ASSISTANT-SURGEON, 6TH PUNJAB INFANTRY.

A WOMAN, about twenty years of age, was admitted by me into the Civil Hospital on the 13th September, 1857, with two sword-cut wounds, one on either knee. That on the left knee was slight, and does not call for any remarks. That on the right knee completely laid open the joint, severing a portion of the head of the tibia, cutting through the muscles, ligaments, &c., attached to the patella, and leaving the patella itself attached by only a very small piece of integument. The question was, should I amputate the limb? The woman was young, strong, and healthy; from the first there had been comparatively but little bleeding from the wound, and the constitution had apparently received no shock from the blow. This being the case, I determined to try and save the limb; and therefore, with as little delay as possible, placed it in position and secured it with a splint. I replaced the patella in its proper situation (although I could scarcely hope to save it), applied a piece of lint saturated with blood over the wound, and ordered a narcotic draught to be taken immediately. In about twelve hours there was considerable irritative fever, which continuing to increase, I ordered a saline draught every six hours. This was taken but a very short time, for the fever suddenly abated and the pulse became weak; I therefore gave tonics, with ammonia and sulphuric ether. The pulse however continued very weak; the countenance became anxious; and, as the wound presented an unhealthy appearance and showed no sign of suppuration, on the termination of the third day, I added to the above bazar spirit, two drachms to each dose, and a quarter of a grain of morphia at night. Bazar spirit is

prepared by the inhabitants of these parts, and is but little inferior to English rum.

From this date she rapidly improved in health, and in my note-book I find it stated that on the 17th, September the patella had come away, the integument having sloughed.

Sept. 18th.—Suppuration has commenced; wound looking healthy; pulse good; appetite good; sleeps well. Apply warm poultices; omit morphia; continue mixture.

20th.—A large quantity of pus flows from the wound.

25th.—Pus still comes away in large quantities, and is burrowing between the muscles of the thigh, on the outer and dependent part of which an opening was made for its exit.

Oct. 10th.—Pus burrowing between the muscles of the inner side of the thigh. Another opening was made for its release about three inches above the knee-joint.

20th.—Pus much less in quantity; original wound nearly healed.

25th.—Original wound healed.

28th.—All flow of matter from the wound is stopped.

Nov. 10th.—An accidental blow has reopened the original wound.

From this time to the patient's discharge from the hospital which was at the end of January, 1858, she continued well in every way. The case terminated in ankylosis of the ends of the bones, and she left the hospital with a very useful limb.

Did I do right in the first instance in endeavoring to preserve the limb? Having determined to try to save the leg, should I have taken off the ends of the bones at the knee-joint, with their cartilages?

#### ON A CASE OF ENTERITIS READILY YIELDING TO CARBONATE OF AMMONIA AFTER MERCURY HAD FAILED.

By ARTHUR PRINCE, Esq., M.R.C.S., Eng.

T. B——, aged fifteen years, was suddenly attacked with acute pain, referred to the lower portion of the cœcum; accompanied with vomiting, difficulty in passing urine, and ineffectual attempts to evacuate the bowels. The pain was so severe that he was unable to maintain the upright position, the slightest weight upon the right leg greatly increasing the paroxysms. A smart dose of calomel-with-opium was administered, followed by castor oil, which had the effect of checking the sickness, but produced no action of the bowels, beyond the expulsion of a small quantity of mucus, tinged with fecal matter. Warm poultices, sprinkled with lead lotion and tincture of opium, were then assiduously applied; and a mucilaginous mixture, with hyoscyamus and nitrate of potash, was given every third hour.

Under the use of these remedies the pain almost entirely ceased, and the bladder was

evacuated without any difficulty; but the bowels still remained unopened. As the lad was nearly free from pain, I desisted from giving any further purgatives, relying upon the hyoscyamus and poultices to abate the spasm and allow the bowels to be naturally acted upon.

There was every prospect of this treatment, being successful, when, owing to a little extra exertion on the part of the patient, all the previous symptoms returned with increased severity. Small doses of calomel in combination with opium were then administered every three hours, and this treatment, together with the poulticing, was continued, with occasional intermissions, for four days, but without producing the least mitigation of the existing symptoms. The pain and tenderness gradually increased, so that not the slightest pressure upon the affected part could be borne. He lay on his back, with the right limb drawn up and flexed. The features were pinched; skin cold and clammy; tongue brown and furred; pulse intermittent; breathing wholly thoracic; urine almost totally suppressed (only a teaspoonful having been voided in twenty-four hours); had had no sleep for forty-eight hours; refused all nourishment, and was evidently sinking fast.

I immediately ordered him carbonate of ammonia, in eight-grain doses, combined with tincture of opium and nitric ether, every two hours. After the second dose he began to improve rapidly, and expressed himself unspeakably comforted; the pain quickly abated, and warmth was restored to the skin. Enemata of warm water were used at intervals, and the medicine continued. Before two scruples of the carbonate had been taken, the pain ceased entirely, and he slept soundly; the kidneys again resumed their function, the tongue rapidly cleaned, and nourishment was eagerly sought after. This satisfactory change was followed after a few hours by a copious evacuation of scybalous matter (the first for nine days), and these evacuations were pretty regularly sustained, until the bowels were thoroughly cleared, and their healthy action restored. The latter treatment was persisted in without any alteration for five days, when (with the exception of some remaining debility) all traces of the disease had disappeared.

This case forcibly illustrates the necessity of resorting early to stimuli in all inflammatory affections of the bowel, where the symptoms do not readily succumb to the action of calomel and opium. The speedy relief occasioned by the carbonate of ammonia in this case was remarkable, and but for its timely administration this patient would have inevitably sunk, without any attempt being made by the bowel to rid itself of its irritating contents.

Harrow-road, July, 1859.

## ON THE EMPLOYMENT OF EXTRACT OF BELLADONNA IN THE TREATMENT OF IRRITABLE BLADDER.

BY HENRY BEHREND, Esq., L.R.C.P., Edin.

THE efficacy of the extract of belladonna in the treatment of that hitherto most intractable disorder, incontinence of urine, has been so abundantly proved by the concurrent testimony of numerous authors during the past two years, that it may now be considered as one of the established facts of medical science. It has already led to an investigation into the action of this remedy in several kindred affections, and induced me some time ago to give it a fair trial in a most severe and protracted case of irritable bladder. The causes of this painful disorder have met with so clear an exposition at the hands of my friend, Mr. Gant, in his recent able volume upon the subject, as to render any further inquiry upon the present occasion unnecessary; but I may be permitted to add my testimony to that of all other physicians who have directed their attention to the subject, to the increasing frequency of the malady, especially amongst the wealthier classes of society. Indeed, it seems to advance, *pari passu*, with the spread of refinement and civilization, and their too frequent attendants—enervating and luxurious habits. The success of the treatment in the case referred to was so striking as to induce me to put it on record, that its efficacy may be tested by other experimenters; especially as, since its discontinuance, now more than six months ago, there has not been any tendency to relapse.

The patient was a married lady, without family, about thirty years of age. Some five or six years ago she had suffered from acute dyspepsia, but shower-baths and horse exercise had completely cured her, and she had enjoyed uninterrupted good health until about two years ago, when she was suddenly, and without any assignable cause, attacked by the complaint for which she first consulted me in August, 1858. Previously to its commencement, which was in May, 1857, she had always slept remarkably well, and had seldom or never been disturbed during the night; but during the last fifteen months, the irritability of the bladder had been so great as to render the immediate evacuation of its contents imperative at least three or four times during the night, and often as frequently as seven or eight times, or even more. During the day there was little or no irritability, and the quantity of urine passed was normal, or nearly so; but in the course of the night, two or three times the natural amount was passed, pale, insipid, and, when tested, free from sugar, albumen or other abnormal constituents. The combined effects of the loss of rest and the drain of fluid from the system had materially affected her general health. She had lost flesh, and suffered much from thirst, headache, and nausea, especially upon rising in the

morning. She was much depressed in spirits, and took a desponding view as to the ultimate result of the malady. I prescribed successively the tincture of the sesquichloride of iron, compound tincture of valerian, tincture of hyoscyamus, liquor potassæ, diluted mineral acids, sea-bathing, and change of air and scene, without the least amelioration of the symptoms; and upon her return to town at the commencement of October, I decided upon giving the extract of belladonna a trial. She began taking it in doses of the twelfth of a grain three times a day in the form of a pill, and was at this period always disturbed four or five times in the course of the night, and often much more frequently. The belladonna was at once increased to the third of a grain three times a day, or a grain in all, as soon as I found that its use was not forbidden by any peculiarity of constitution. These doses were continued for about six weeks (with the occasional intermission of a day or two), at the expiration of which period its toxical effects began to manifest themselves; for though the pupils were not dilated, yet vision was not normal; black spectra appeared; the mouth and fauces were parched and dry, and there was occasional nausea. Already the improvement in the symptoms was decided; my patient slept better, and was never disturbed more than three times in the night.

As it is a recognized fact, that in order to obtain the full amount of benefit from the belladonna, it must be pushed until its specific symptoms are quite established, I now increased the daily amount taken to a grain and a half, in the proportions of half a grain in the morning, and one grain at nine P.M. In the course of three or four days, the pupils became dilated, the nausea extreme, and there were repeated efforts to vomit, for the most part ineffectual, but occasionally followed by a little glairy mucus. The irritability of the bladder became almost entirely subdued; she was disturbed once only, or at most twice, throughout the night, and the quantity of urine passed was normal, or only occasionally slightly increased. The belladonna was at once discontinued, the general health rapidly improved, and during the past six months the cure has been permanent, and my patient has continued perfectly free from any recurrence of her distressing complaint, except that a slight tendency to irritability of the bladder manifests itself now and then, for one or at most two nights in succession, but passes away of itself, and is not of sufficient consequence to require any treatment.

Norfolk-crescent, Hyde-park, July, 1859.

## SYPHILIS WITH THE HYMEN UNBROKEN.

BY REDFERN DAVIES, Esq., M.R.C.S.,

SURGEON TO THE BIRMINGHAM WORKHOUSE INFIRMARY.

THE two following cases, which were recently in the venereal wards of the infirmary, may be deemed interesting in a medico-legal point of view,

illustrating in a most striking manner that the existence of a hymen is consonant even with venereal disease in a prostitute. I may remark that these cases have been examined by Dr. Bell Fletcher and others.

**CASE 1.**—Elizabeth C—, aged seventeen. Menstruation, which commenced at the age of twelve, has continued irregularly ever since. She has all the marks of puberty well developed, and a lively disposition. Has been living in a brothel as the servant of the house for the last eight weeks. After she had been there a fortnight, she slept with a man aged twenty-five, who, although aided by her, was unable to attain his object. During the following fortnight, according to her own statement, about a dozen other men shared a similar fate to the first, all of them expressing themselves dissatisfied. Each attempt caused her pain; but it was only with the fourth man, who used great force, that she bled, and the only a little. Five weeks back she perceived a thick yellow discharge from the vagina, accompanied with heat and scalding upon micturition; and in another week she found a small sore upon the labia. These symptoms became worse, and prevented her from attempting intercourse, so that four weeks have elapsed since the last occasion.

Upon admission, Feb. 27th, she was found to labor under a vaginal discharge, with pain on passing urine, and tumid lips of vagina. On the right labia was a non-indurated chancre. Passing the finger into the vagina, it was arrested just within the lips; and, as it caused much pain, the attempt was not persevered in. Several days after, when, by treatment and rest, all swelling had subsided, another examination was very carefully made, when it was found that the hymen existed, and in a most perfect state and position. The little finger could be carried through into the vagina, which was found to be of a natural calibre and condition; but this was attended with pain, and she averred most positively that it was the first time that an introduction had been made so deep into the passage.

**CASE 2.**—Sarah H—, aged sixteen, of a delicate and feeble constitution; has never menstruated, and the signs of puberty are but small. Some six months before admission she was persuaded by a man, aged about forty, to permit him to have intercourse with her. The attempt caused her pain, and a few drops of blood were seen upon her dress: he was, however, totally unable to penetrate beyond the external lips. A second attempt was made about four months afterwards, and a third a month since, with similar results; the men being about twenty-five years of age. She has had a vaginal discharge, with heat and pain on micturition for the last three weeks.

Upon admission, Feb. 26th, the usual signs of gonorrhoea were present; but upon examination, the hymen was found perfect and in its natural

site. The little finger passed with difficulty through it into the vagina, which was in all respects normal.

Birmingham, 1859.

## INTESTINAL FEVER ESSENTIALLY CONTAGIOUS.

BY WILLIAM BUDD, M.D.,

SENIOR PHYSICIAN TO THE BRISTOL ROYAL INFIRMARY.

*L'affection typhoïde, est elle contagieuse? La réponse à cette question se trouve dans les faits que la science possède; et il n'est pas difficile d'en rappeler quelques uns pour en convaincre le lecteur.* Louis.

## INTESTINAL FEVER, COMMONLY CALLED TYPHOID FEVER: MODE OF PROPAGATION

In the papers which THE LANCET has done me the honor to publish, on the Mode of Dissemination of Typhoid—or, as I prefer to call it, Intestinal Fever,—I ventured to lay down two fundamental propositions—1st, that this fever is essentially contagious; and 2nd, that by far the most virulent part of the specific poison by which the contagion takes effect is cast off by the diseased intestine of the fever patient.

I now propose to bring forward the evidence on which these propositions are founded. As, for the sake of clearness, it will be better to deal with them separately, I shall confine myself, in the present communication, to the recital of cases which prove the essentially contagious character of the disorder. Strictly speaking, this should be at the present day a superfluous task. As Louis has remarked, the reality of this character is established by facts already in the possession of science.\* It is now, indeed, nearly thirty years ago that M. Bretonneau related to the French Academy of Medicine a series of cases, in which the operation of contagion in the propagation of this fever was so plain as to admit neither of question nor doubt. In M. Bretonneau's evidence no element was wanting to the proof. Perfect identification of the disease, scrupulous veracity and impartiality in the observer, and decisive clearness in the facts, were all combined to render the demonstration complete. Since then M. Gendron, M. Ruef, and M. Piedvache, with many other writers of less note and more recent date, have drawn from their own observation the most ample and decisive proofs of the contagious nature of this fever.

As the facts recorded by these eminent physicians were incontrovertible, and the inference they drew from them was the only one logically possible, it was natural to suppose that their views would have commanded general assent. This, too, was the more to be expected because the property of contagion, which the facts revealed, so far from being new to disease, was already familiarly known as the common property of a great family group, of which intestinal fever

\* It may be well to state that, throughout these papers, the word "contagion" is used in its widest sense; as signifying the communication to others, through whatever medium, of the specific fever which is the subject of inquiry by persons already infected with it.



repeated, in unmistakable form, the family characteristics.

The great natural order of *contagious* fevers had already long filled a conspicuous place in nosological systems. In one of the number—small-pox—the contagious faculty had even been made use of for the artificial production of the disease, on an enormous scale, by direct inoculation. Analogy, of the greatest possible force, therefore, was already at hand to recommend what direct evidence established. And yet, strange to say, with all this in its favor, not only is the conclusion at which M. Bretonneau so long ago arrived, as to the communicability of intestinal fever, not yet generally accepted, but by a large party in the profession the very idea of contagion, as a means of its propagation, is altogether repudiated. Such a result as this, however we may view it, is, to say the least, very strange and perplexing. In other branches of inquiry, instances may, no doubt, be cited in which general belief has been slow to follow the advance of knowledge; but such instances, not numerous at any time, have latterly become more and more rare, even in the few that have happened there have commonly been sufficient grounds to palliate, if not to excuse, the popular hesitation and doubt. The problem to be solved has been abstruse, the methods for its solution have been difficult and recondite, the evidence more or less ambiguous, or the new truth, even when arrived at, has lain beyond the scope of common apprehension. In so subtle a matter as the undulatory theory of light, for instance, it was no great wonder that Young and Fresnel should for some time continue to be in advance of their age. But in the case we are now considering, methods are not in question at all: the evidence lies on the very surface of common events, and the conclusion to which it tends, so far from transcending ordinary apprehension, is often so salient as involuntarily to force itself on the mind, even of the vulgar, on the first view of the facts. That a truth so palpable, and of the reality of which such clear proof is already on record, should still remain very generally ignored, if not disputed, is, I repeat, a very strange result. An inquiry into the causes which have led to it might give rise to important reflections were there time to pursue them. It were well, indeed, if this were the whole case. Unfortunately, there is reason to believe that, as time wears on, the departure from fact is more and more wide. In England, at least, there are many grounds for believing that, while the contagious nature of intestinal fever remains as certain as ever, the anti-contagionists are constantly growing in number. This may be traced, in a great part at least, to the zeal with which the General Board of Health, backed by large emoluments, by unlimited printing power, and by a numerous and energetic staff, has continued to urge its anti-contagionist views.

Whether this be so or not, evidences of the

fact are to be met with on all sides. We have already seen that in the Report on Cholera, to which the Royal College of Physicians has given the authority of its name, intestinal fever is treated of as a malarious fever, in express contradistinction to fevers propagated by contagion. In one of the latest publications of the General Board of Health, Mr. Simon, speaking of the same fever, expresses himself in these words:—

"The typhoid form, specially affecting the intestinal canal, is, in its nature as in its causes, very closely related to the diarrhoeal diseases already spoken of"—cholera, namely, and allied disorders, held by the author to be non-contagious. "There exists," he adds, "no conclusive evidence to show whether this disease be in any degree or in any manner contagious; but almost certainly, it cannot spread atmospherically by means of exhalations from the sick."—(Papers relating to the Sanitary State of the People of England, p. 16.)

At a meeting of the Epidemiological Society of London, held on Nov. 1st, 1858, Dr. Barker, of Bedford, in a very able paper on the mode of dissemination of various epidemic disorders, laid it down in principle, that *typhoid* (i. e., intestinal) fever is essentially non-contagious; and although the meeting was largely attended, the President, who related a decisive instance to the contrary effect, appears to have been the only person present to take exception to the statement.

These papers reflect very faithfully the opinions which prevail on the question before us in all the most eminent medical societies of the metropolis. By the public press, medical and other, the same opinions are urged in a still more confident tone. In a recent number of one of the medical journals (the *Medical Gazette*), the writer of an article on the epidemic of intestinal fever which lately prevailed at Windsor, speaks of this disease as being directly opposed to the *contagious* typhus in its mode of causation: and adds, that Mr. Simon has very satisfactorily disposed of the notion that the disorder was imported into the town, or was of a contagious nature.\* In the Reports of the Registrar-General the same views, in their general application, are repeated almost weekly, in forms that have become stereotyped phrases.

In regard to the propagation of this species of fever, therefore, there can be no doubt that, in England at least, the great weight of authority

\* The opening passages of this article express so well the views which are at present in vogue in regard to all these points that I think it well to subjoin them:—

"The epidemic of typhoid fever at Windsor is subsiding. It should be known that the disease is the true endemic *typhoid*, not the contagious epidemic *typhus*. Mr. Simon made out very satisfactorily that the cases supposed to prove the importation of the disease and its contagious nature were really cases of scarlatina, which prevailed to some extent during the prevalence of typhoid. So much confusion is kept up by the similarity of the terms 'typhus' and 'typhoid' that it might be well, in default of a better term, to adopt Dr. Murchison's suggestion, and call typhoid 'pythogenetic' fever, especially as its dependence upon the poison generated by putrescent animal matter is becoming so generally acknowledged. At Windsor, its dependence upon the poisonous gases formed in the town sewers was most evident."

lies with the anti-contagionists. In scientific circles they hold an almost undisputed sway. In the State, their counsels are supreme. The whole system of prevention, as far as it is conducted by organized bodies, is based on their views. They command the press: they have still more entire possession of the public ear. With that large and hapily-increasing body of the laity who take an interest in sanitary questions, but who from their position necessarily have to take their sanitary opinions on trust, the authority of these teachers is never questioned. In general society, if they have not the credit of actual discoverers, they have at least that of having finally exploded a mischievous and long-standing error. With the public at large, to hold that typhoid fever is contagious is not to be singular merely—it is to be benighted. To be an anti-contagionist is to be enlightened—to be abreast with the age; to believe in contagion, is to be antiquated, not to say superstitious.

When a doctrine has risen to such ascendancy, there is but one thing wanting to render its triumph complete, and that is to embody it in the nomenclature of the subject. In the instance before us, this also has been attempted.

The term "pythogenetic" fever,—or fever "born of putrescence," which Dr. Murchison has coined in order to give point and permanence to the opinions he so ably represents—bids fair, from the favor with which it has been received, as well as from the precision with which it expresses the popular view, to supersede, for a time, the many designations by which this disease has hitherto been known amongst us.\*

In so vital a question, it is, I need scarcely say, of the highest importance that the actual truth should be generally known. Dr. Watson has very justly remarked, that if this fever be really contagious, it is not only erroneous, but dangerous to hold the contrary; a remark which I could illustrate by many a tragic history of lives sacrificed in a wholesale way to this untenable dogma. To what extent it is dangerous may be best measured by the fact, already referred to in a former paper, that in this country alone 20,000 persons die annually of this fever, and 140,000 more are laid prostrate by it.

Thus vast is the field for the operation of preventive measures. And when we reflect that the discovery and success of such measures must depend in great degree on insight into the real mode of propagation, we see at once what importance the question assumes. It is because the facts, which are the subject of the following narrative, establish on evidence from which there would seem to be no appeal, what I venture to name the *master truth* in the history of this fever—namely, its contagious nature—that I desire to place them permanently on record.

The circumstances under which they were, for the most part, observed, in the course of an epidemic which broke out in the village of North Tawton, Devon, in the autumn of 1839, were fully detailed in my last communication, and need not be repeated here. All that is now necessary is to show that the disease, of which that epidemic consisted, really was *typhoid* or intestinal fever.

On this point, therefore, it will probably be sufficient to say, that after having made a lengthened and close study of the intestinal form, in the wards of La Petité, under the personal teaching of Louis himself, the cases about to be related were not only minutely observed and recorded by me, with the express object of showing that this form and the maculated typhus are totally distinct in species, but were actually used for that purpose in an essay which I then wrote.\* If this assurance be not deemed sufficient, the facts themselves were clear and unequivocal.

Amongst those which may be referred to as quite decisive were—

1st.—The presence of early and spontaneous diarrhoea in the great majority of the cases; continuing, in many, for several weeks; the discharges being, for the most part, liquid, copious, of a bright yellow, devoid of mucus, and offering the other peculiarities which belong to the alvine discharges in this fever, *and which are essentially related to the intestinal disease which forms its specific character.*

2nd.—The occurrence of profuse intestinal hæmorrhage in three cases, and the occasional appearance of altered blood, in smaller quantity, in the intestinal discharge from many others.

3rd.—The almost universal prevalence of more or less tympanitis, distinguished by that entire effacement of the natural lineaments of the belly which is so marked a character of the symptom in this fever.

4th.—The death of one of the subjects with the unmistakable signs of perforation of the gut.

5th.—The appearance in nearly every case, in the course of the second week, or later, and generally between the tenth and fourteenth days, of the lenticular, rose-colored spots, so accurately described by Louis, and to the diagnostic importance of which that eminent pathol-

\* The essay referred to (which I still have by me in MS.) was sent to compete for the prize given by the late Dr. Thackeray, and awarded in 1840, for the best essay on the "Causes and Mode of Propagation of the Common Continued Fevers of Great Britain and Ireland." That essay had three principal objects:—The first was to prove, by various evidence, that the typhoid fever and the maculated typhus—the fever with intestinal affection, and the fever without such affection—are not varieties merely of one disease, but two diseases of essentially distinct species. The second, that both species are essentially contagious. The third, that there is no valid evidence to show that the specific poison from which either respectively springs is ever bred elsewhere than in the living and already infected body, but every reason to believe, on the contrary, that both are propagated by the law of continuous succession.

The first of these propositions, which was considered very heretical then, is now very generally adopted: and I have little doubt that the third and fourth also, whatever may be thought of them now, will end in becoming articles of popular belief.

On the 18th of February, 1843, I read to the Bristol Medical Library Society an abstract of the essay, in a paper which included most of the facts and considerations advanced in the present communication.

\* See Medico-Chirurgical Transactions, Second Series, Vol. xxviii., and Edinburgh Medical and Surgical Journal for October, 1855, for two very able papers, by this writer, on the etiology and nomenclature of this fever.

ogist was the first to draw attention, in his great and elaborate monograph.

6th, and lastly,—not to refer to the other and minor points,—the actual detection, in one case (the only one in which a post-mortem examination was allowed), of the characteristic intestinal ulcers, with the well-known yellow deposit, and the attendant enlargement and softening of the corresponding mesenteric glands.

It is scarcely necessary to say, that the presence of these characters does not leave the possibility of a doubt that the disease in which they were observed really was that specific fever, of which an equally specific affection of the intestinal follicles is the one anatomical mark.

The question of identity disposed of, we may now proceed with the events.

The first thing to arrest attention after the disorder had become rife in North Tawton was the strong tendency it showed, when once introduced into a family, to spread through the household. Thus in the family of Ann N—, a young woman who was taken ill in the second week in July, and who was the subject of the first case, the mother, a brother, and a sister—making four in all—were one after another laid up with the same fever; the father, who had already had the disease in former years, and a young infant, being the only inmates spared. In another house, four out of six persons were successively attacked; in another, three, and so on. Without going into further details of these cases (of all of which I possess accurate notes), it will be sufficient to say that, before the disease finally died away, there were few houses in which, having once appeared, it did not further extend itself to one or more members of the family. This, which was throughout its most striking character, was, in itself, sufficient to lead to a strong presumption of the contagious nature of the disorder.

But while these events were occurring in the village itself, there were others happening at a distance, which converted this presumption into a certainty. During the prevalence of the fever in North Tawton, it so happened that three persons left the place after they had become infected. By a fatality which is but too common under such circumstances, all three communicated the disease to one or more of the persons by whom they were surrounded in the new neighborhood in which they were taken sick. Two of these three persons were sawyers by trade, who had hired themselves for a few weeks to a timber merchant living in the village. While these men remained in North Tawton, they lodged in a court with a single and a common privy, and next door to a house in which the fever was. In the course of time both these men took the disorder, and on the occurrence of the first decided symptoms, both returned to their own homes, in the parish of Morchard, about seven miles off.

The first, A— by name, was a married man,

with two children. He left North Tawton on the 9th of August, being already too ill to work. Two days after reaching Morchard he took to his bed, and at the end of five weeks he died. Ten days after his death his two children were laid up with the same fever, and had it severely; the widow escaped. C—, the other sawyer, was a single man, and an aged couple who lived with him were the only other inmates of the house. Like A—, he was driven from North Tawton by indisposition, which rendered him unable to follow his employment, and cut off his means of support. He began to droop on July 26th, but did not leave for Morchard until Aug. 2nd. On the third he finally took to his bed. His attack was severe, but, after a long struggle, he recovered. When this man was at his worst, a friend who came to see him was called upon to assist in raising him in bed. While thus employed, the friend was quite overpowered by a smell from the sick man's body. He felt very unwell from that time, and continued to be harassed for days afterwards by a sense of the same pestilential smell, and by a fixed impression, which under the circumstances was natural enough, that he had caught the fever. On the tenth day from the date of this event, he was seized with a violent shiver which was immediately followed by an attack of intestinal fever of long duration. Before he became convalescent, two of his children were laid up with the same fever, as well as a brother, who lived at some distance, but who had repeatedly visited him during his illness. Two aged persons who lived with C— escaped infection.\*

The houses occupied by these four men lay some way apart, and unless underneath their roofs, there was no fever at the time in that part of the country.

Was this series of events, it may now be asked, the result of chance, or the work of contagion? If any rational person should entertain doubts as to the true answer to be given to this question, the history of the next case may be safely left to resolve them. The subject who was the means of propagating the disorder in this instance was a widow named L—, who resided in North Tawton. She began to droop on the 20th of August. On the following day, not knowing what was impending, she went to visit her brother, a farmer of the name of S—, who occupied a large farm in the hamlet of Chaffcombe, about seven miles off. On the 23d she was laid up. On the 24th I was sent for to see her, and found her in bed in the first stage of intestinal fever. In the after progress of her case, which, although it presented no malignant features, was a very protracted one, she exhibited, in turn, all the most characteristic marks of the disorder. Amongst these may be mentioned—nose-bleeding, spontaneous and obsti-

\*The most important of these particulars were kindly furnished to me by Mr. Brutton, Surgeon, at Morchard, who had the charge of this group of cases. By a very natural figure of speech, the fever from which all these persons suffered was known amongst the Morchard people as the "North Tawton" fever.

nate diarrhœa, tympanitis, dry tongue, low delirium, and other typhoid symptoms, together with (towards the end of the second week) the now well known eruption of rose-colored spots. After lying several weeks under my care at Chaffcombe, she slowly recovered.

It may not be amiss to observe, that the fever had become meanwhile so rife at North Tawton, that while I was attending Mrs. L——, I had no fewer than seventeen persons under my care in the village in various stages of the disorder.

A few days after she had become convalescent, her sister-in-law (Mrs. S——), who had nursed her, fell ill of the same fever. Her case was very severe, and, after a protracted struggle, terminated fatally on the 4th of November. The husband (Mr. S——), who had spent the chief part of his time in his wife's sick room, and had sat up many nights by her, in great anxiety and distress, was the next sufferer. He began to droop in the last week of October, but was not finally laid up until the day of his wife's death. After having lain for some time in a very precarious state he recovered. While he was yet ill—at the end of three weeks, in fact, from the date of the seizure—one of the farm apprentices was attacked in the same way. Then followed a lad employed as a day laborer on the farm, and then Miss S—— (a sister of Mr. S——), who had come to take charge of the house after the death of his wife. Next in order came another apprentice; and again, as a last group, a servant man, a servant girl, and another young person (a daughter of Mrs. L——), who, until she was laid up, had acted the part of nurse.

As far as external conditions went, the sanitary state of the homestead which had become the seat of this terrible scourge, differed in nothing from what it had been for many years before, during which the household had continued to enjoy perfect health. The only new incident in its history was the arrival of Mrs. L—— from the infected village, seven miles off, with the fever upon her. What, perhaps is still more to the point is, that many other such homesteads lay near to this, which were far worse off in respect of these same conditions, but in which no fever of this or any other kind existed. There was no single case of the sort, indeed, within miles of the place, or nearer than North Tawton, whence the taint had been imported.

The outbreak, severe as it already was, did not, however, end here. In order to lighten the burden of so heavy a sick-list, the servant girl, already referred to as one of the sufferers, was sent to her own home (a small cottage in the hamlet of Loosebeare, about four miles away) as soon as the first symptoms of illness appeared. Here she lay ill for several weeks under my care. Before she had recovered, her father, a farm laborer of the name of G——, was likewise seized, and narrowly escaped with life. A farmer, named K——, who lived across the road, and who visited this man several times

during his illness, was the next to take the disorder. His case was, in turn, followed by others under the same roof; and the fever, spreading from this to other houses, became the focus of a little epidemic, which gradually extended to the whole hamlet.

Scattered over the country side there were some twenty or thirty other hamlets, with the condition of which I had long been intimately acquainted, and which in all things were the precise counterparts of this. Two or three farm-yards and a few laborers' cottages clustered round them, made up, in each case, the little community. In each of these were the usual manure-yard and the inevitable pig-sty; in each there was the same primitive accommodation for human needs. The same sun shone upon all alike, through month after month of the same fine, dry, autumnal weather. From the soil of all, human and other exuvæ, exhaled into the air the same "pythogenic" compounds, in about equal abundance. In some amongst them, indeed, to speak the exact truth, these compounds if the nose might be trusted—and in this matter there is no better witness—were of the two more rife. And yet, while at Loosebeare a large proportion of the inhabitants were lying prostrate with intestinal fever, in not one of the twenty or thirty exactly similar places was there a single case.

To explain a contrast so signal there was but one fact to appeal to,—the arrival from Chaffcombe, where the same fever was already raging, of Mary G—— with the disease actually upon her. Before that event, and in spite of manure heaps, pig-stys, and the like, Loosebeare, too, was free from the malady. The diseased intestine of the infected girl had continued to deposit its morbid excreta upon the soil for a fortnight or more before the fever began to spread, and the first case that succeeded to hers sprang up immediately around her person.

The Chaffcombe tragedy—if I may so call it—had yet another episode. One of the boys already mentioned in the infected list, was the means of widely disseminating the fever in quite another direction. This boy, who was employed as day laborer on the farm, lived, when at home, in one of a pair of cottages standing by the road side, about midway between Bow and North Tawton. The cottage in question was occupied by the boy's mother; the cottage next door by the husband and family of one of her married daughters. Of the ten persons who, one after another, contracted intestinal fever at Chaffcombe, this boy, Oliver L——, was the fifth in order of attack. Like G——, he was sent home to his friends as soon as he fell ill, and he took to his bed in the last week of December. I attended him for a long time at his mother's house, and his case was very severe. Before he had become fully convalescent, his mother, who had nursed him, sickened; and while she yet lay ill, his sister took the fever.

In the last-named subject the course of the disease was unusually rapid, terminating fatally as early as the ninth day. On Jan. 24th she had a severe shiver, on the 26th she took to her bed, and on Feb. 2nd she died.

The next to be attacked were two children of the family next door, every member of which ended by being laid up with the disorder. Another married daughter (a sister of Oliver L—), who had come from a distance to take care of her sick relatives, being at length infected, became, on her return home, the means of largely propagating the fever in yet another quarter. This new group of sufferers also fell under my charge, but as the history of the introduction and spread of fever amongst them would only offer a repetition of incidents precisely similar to those that have gone before, I need not further pursue it. It is only important to add that, with one exception all the cases included in the last narrative were either under my own care, or under the care of one of my brothers, who was associated with me in their treatment, and that I kept, as I have already stated, an accurate record of them at the time of their occurrence, with the express view of illustrating the mode of propagation of this particular species of fever.

Two other instances, of more recent date, shall close the array of evidence. In the first of these the disease did not spread so widely amongst the attendants on the sick as in the examples already given, but it brought some other relations into view, which render it worthy of being placed on record.

In the summer of 1855, Miss R—, a lady residing on St. Michael's-Hill, Bristol, went to spend a few weeks in France, taking a party of five young ladies with her. After passing a month at Havre, one of the number was obliged to return home; the other five went on to Paris. On their arrival there, they took an apartment in a "hotel garni," near the Bourse, which they continued to occupy during the nine days of their stay in the French capital. Being limited to time, and this being their first visit, they gave themselves up to sight-seeing with the ardor usual under such circumstances, and incurred great fatigue in consequence. Some days before quitting Paris, they discovered, from the frequent passing to and fro of Sisters of Mercy, and from other unmistakable signs, that some one was lying dangerously ill in their hotel, in the apartment next to that which they occupied. On the day preceding that of their departure for England, a priest made his appearance on their landing, and, on inquiry, they were told that he had come to administer the last sacrament to a lady who was dying of *la fièvre*.

On Thursday, the 20th of July, they left Paris and reached Sydenham in the course of the same day. The day following they devoted to the Crystal Palace, and, in the evening, they parted company. One of the young ladies went to Pembroke, and another to Tetbury; while

Miss R—, with the other two, came to Bristol. On the day following, one of these two, who had already shown symptoms of illness at Sydenham, was laid up. She kept her bed some weeks, and her disease was pronounced to be "gastric fever."

In the middle of the next week, the other three young ladies, who had continued well up to that time, began to droop; and on Saturday, the 29th of July—exactly nine days after leaving Paris—they were all in bed with the same fever. The young lady from Tetbury died after a month's illness; the other three recovered. Of these three, one, a Miss T—, was attended by myself throughout. Her case, which was a very severe one, presented in turn all the most characteristic marks of intestinal fever. Towards the latter end of the second week, there was a copious eruption of the well-known spots; and, in the course of the third, she very nearly died of intestinal hæmorrhage. On the 14th of September, Mary Y—, a servant who had nursed her, began to droop; and, on the 19th of September, was admitted into the Bristol Royal Infirmary, suffering from the same fever. The case proved to be a mild one, but presented all the diagnostic marks of the disease, including the characteristic eruption of rose-colored spots. There was at that time no other case of fever on St. Michael's-hill. Miss R—, who was an elderly person, and the young lady who did not accompany the party to Paris, escaped illness.

From this narrative it is clear that the four young persons who, in different parts of the kingdom, were thus attacked, within a few days of one another, by the same specific fever, derived it from a common source. That this source was the sick lady who was their fellow-lodger in Paris, although not so certain, was in the highest degree probable. That Mary Y— caught her fever from Miss T—, by attending on her, there could be no reasonable doubt.

The next and last case which I shall report is still more recent. With some slight variations the events offer a repetition of those which occurred at Chaffcombe.

The scene of the outbreak, in this instance, was a farmhouse, situated on the crest of a hill, about five miles west of Cardiff, and overlooking the village of Penhavad. Prior to this outbreak, fever had not occurred at the farm within the memory of man. The house itself was ill-built, and the ventilation especially very defective. It was provided with a common privy, placed in one corner of the garden, about twenty yards from the house. That the place was not unhealthy, however, was proved by the fact that the owner of it had brought up there a family of seven children, who, up to the date of this visitation, were the very type of luxuriant health. Several members of the two preceding generations had attained to great longevity on the same spot. In respect to sanitary conditions, the homestead was in precisely the same

state in which it had been for many years past.

Such being the position of things, on the 16th of December last, an event occurred which proved to be of the most tragic moment to all concerned in it. On that day, one of the sons, William P——, a lad about twelve years old, was brought home from a boarding-school at Cardiff in the first stage of intestinal fever. He was sent away from the school in consequence of having the fever upon him.

In this, as in all the cases that followed, the intestinal discharges were thrown sometimes into the common privy, and sometimes into a large open pit, surrounded by a low wall, which served as an ash-pit. This pit was situated within a few yards of the back door of the house. The tainted linen was washed in the washhouse near the back kitchen, a place which all the household frequented. Before the arrival of the infected lad, the family, as I have already said, were in the enjoyment of good health, and the neighboring village and farms were entirely free from fever.

In the third week of his illness, Emma P——, one of the sisters, five years and a half old, was attacked with the same fever as that under which her brother was laboring, and died of it towards the end of the second week. A few days after Emma, Maria P——, another sister, aged eighteen years and a half, was seized with the same malady, which proved fatal on the 1st of February, 1859.

While these two lay ill, a man-servant and a maid servant also became infected. Both were sent to their own homes as soon as the first decided symptoms appeared, and both died of the fever after short illnesses. Within a day or two, Elizabeth P——, another sister, seventeen years old, was seized, and has not yet perfectly recovered.

On the 31st of January, John, a brother, seven years old, was laid up, and remained for several weeks in a very precarious state. A hired nurse, who had attended several members of the family in succession, has since taken the infection, and still lies ill of the fever.

On the 8th of February, I saw William, Elizabeth, and John ——, the three surviving sufferers, in consultation with Mr. Rees, of Cardiff. The condition of all three was characteristic of the respective stages of the disease under which they were laboring. Elizabeth had had intestinal hæmorrhage three days before I saw her, but appeared to be doing well. In John, who had been nine days in bed, all the diagnostic marks of intestinal fever were in full development. In addition to the typhoid symptoms, commonly so called—including prostration, wandering, deafness, subsultus tendinum, and dry, encrusted mouth—there was diarrhoea, tympanitic belly, and one of the best marked eruptions of rose-colored spots I have ever seen.\* Wil-

liam, who first brought the fever home, was still in that state of abject weakness and extreme emaciation which is one of the most characteristic results of this fever when severe and protracted; his shaven hair had only just begun to grow, and he bore on the nape of his neck a large, deep ulcer, which had formed there, in the course of the fever, by the sloughing of a blistered surface.†

(To be continued.)

## THE TRUE NATURE AND MEANING OF PARASITIC DISEASES OF THE SURFACE.

By WILLIAM TILBURY FOX, M.D., LOND.

Of late, the doctrine of the existence of fungi, in what are called "parasitic diseases," is of secondary importance, and not the true cause of those affections, has been gaining ground, and endorsed by good authority. In direct opposition to this hypothesis stands the conclusion at which I have arrived after a very careful appreciation of the facts presented by a good number of cases observed for some long time past: and my endeavor will be to show that conflicting opinions have arisen from the want, on the part of writers and others, of a clear understanding of the true nature of *parasitic disease*. •

Without stopping to consider that singular piece of scepticism of Erasmus Wilson, from which has resulted the denial of the vegetable nature of the abnormal growths called parasites, since the observations of Dr. Lowe (tending to show that parasitic disease may be produced by the implantation of the yeast-fungus) are sufficient to set it aside, it is well to remember the chief grounds upon which this opinion of Wilson is based—viz: 2st, his affirmation that the origin as to seat of so-called parasitic growths is the depth of the follicle (the inference deducible therefrom is that their source cannot be from exterior); and, 2ndly, the evidence of transitional forms. Both are valueless. The former was pointed out by Weld long ago to be a grave error, for he showed that by using liquor potassæ the sporules might always be found primarily at the follicular orifice; and this I can confirm from repeated early examination of the commencing, and also of the extending edge of disease. The latter is more frequently absent than present.

Remak's observations, too, are entirely opposed to such a notion, in establishing the fact, that the development of the parasitic fungi may go on away from the influence of the body, or that of its tissues. How, then, can a parasite be a "change in the normal constituents of the body?" Such an assumption is wholly unne-

Rees, that in two of the fatal cases a similar morbid product put on a true diphtheritic character.

† It is worth noting, that after the fever showed such a strong tendency to spread, Elizabeth and John, with two other members of the family, were sent away to Stockland, an outlying farm, about two miles off. Elizabeth was seized three days after her removal, but John remained well ten days longer.

\* In these two subjects, the fauces were beset by aphthæ, which, on the soft palate, formed a continuous layer. I was informed by Mr.

cessary, since we receive a complete explanation of all the facts of *tinea* in, and by the laws of, fungi.

The affections which are referred to as "parasitic" (wholly or in part), and to which the subsequent remarks apply, are:—*Tinea favosa*, *T. tonsurans*, *T. sycosis*, *T. tarsi*, *T. decalvans*, *pityriasis* (or *tinea*) *versicolor*, *tinea* (or *plica*) *polonica*; those in which the following have been observed, viz: the *leptomit*us, the *mucor*, the *aspergillus*, the *trichophyton* *ulcerum* and the *oidium albicans*, and the chronic (or acute) skin disease in which fungi are met with. Now, most of these are complex cases. I do not mean to assert that the above are severally, and wholly, and *in toto* parasitic; but that in every case of skin disease in which fungi occur there is present a certain affection which is produced by the parasite, and by it alone.

What, then, is the parasitic disease, and what relation does eruption bear to it? All the misunderstanding upon the matter is entirely due to the error of considering eruption a necessary part of the affection, which is parasitic. Usage has so schooled us as to render it difficult to regard it as really non-eruptive. Parasitic disease, however, is not necessarily accompanied by eruption, though the two are usually conjoined. Herein lies the solution of the whole matter.

By *tinea* (the generic term for parasitic disease of the surface) is meant any affection which is due to the presence of vegetable growth producing characteristic effects upon the hairs of the part attacked; and not until the fungus is implanted on the affected part can we say that what we call the disease is present, and never until the spread of the vegetation occurs do we get those intimate changes which damage the follicle and its contents: that is to say, no non-parasitic disease ever produced *tinea*. Dr. Jenner, some years ago, laid down some such definition; but it is the affection of the hair which must be considered as the true parasitic disease.

The latest writer on the subject, Mr. Hogg, in a communication made to the Medical Society of London, endeavored to show that parasites were but secondary parts of the diseases in which they occur. He asked, Is the diseased condition the result of the ravages of the parasite? or is the parasitic vegetation the result of the disease? His replies were as follows: (1) "That the growth of them [fungi] is not necessarily pathognomonic of any special disease is obvious, from the fact of their having been found in nearly all allied kinds of chronic disease, in *lepra* *psoriasis*, *ichthyosis*, &c.," and (2) "they have not been found in disease they are believed to engender." The latter may be summarily dismissed, with the remark that the only disease they engender is that of the hairs: any other belief is erroneous.

Now, Mr. Hogg, in common with most other observers, has fallen into the mistake which I

have hinted at,—namely, the confounding the concomitant eruptive with true parasitic disease (that of the hairs). The pathognomonic sign of parasitic disease of the surface is, the infiltration and destruction of the hair by the spores; and the diagnosis can in nowise be considered perfect until the spores or mycelium have been detected there by the microscope; and in every case in which we get, the "tonsurant" appearance of the hair, the characteristic (?) *favus* crust, the *idiopathic* bald patch, the brown scurf of *chloasma*, &c., we will assuredly find the attacking fungus invading not the epithelium only, but also the hairs themselves. It is always requisite to use the liquor *potassæ* in the examination, for sporules are frequently, indeed usually, detected which had escaped observation before its addition. The plant is usually sought for in the secretion or epithelium, and the hairs disregarded. If a case of chronic skin disease be examined, and a parasite detected, the hairs of the affected part will be found diseased, and the attack by the fungus is the real cause of the *tinea*. The disease is a complex one,—an eruptive disease, *plus* a *tinea* (a parasitic *lepra*, or *eczema*, or whatever else the kind may be).

I am now perfectly satisfied of the truth of this statement, from repeated examination of cases, more especially of *herpes circinatus*; and have always found alteration or destruction of the hairs whenever a parasite was present, and their integrity whenever the latter was absent.

Many believe, with Cazenave, that *tinea tonsurans* is but *herpes circinatus*. This is another example of the confusion of *eruptive* with *parasitic* disease. As generally seen affecting the surface, *herpes circinatus* consists of circular spots, spreading circumferentially, composed of a reddish base of dusky hue, upon which, especially at the edge, are ill-defined vesicles (often-times imperfect pustules), coalescing frequently; indeed, occasionally, so as to form a whitish ring, broken at parts of the circumference. The central part of the patch becomes, by-and-by, scaly, and not unlike mild *psoriasis*. Such cases are often mistaken for syphilitic *herpes*, because they differ from the typical character of *herpes* (the *phlyctenoid* variety); "the vesicles on an inflamed base" not being so well developed, the stain brownish, the surface scaly, the affection obstinately chronic, and the margin well defined.

In the month of April, a case of *herpes circinatus* of the forehead came under my notice, in a weakly subject. There were four patches about the size of a shilling on the forehead, presenting all the characters above described. The hairs of the part were infiltrated by the spores of the *trichophyton*. The woman fainted, and when the blood was absent from the face, the patches on the forehead presented a most perfect light copper color—a shade between those of *chloasma* and syphilis; and the appearance was wonderfully syphilitic, with the well-defin-



ed outline and scaly centre. The disease was cured in eight or nine days.

In other cases of herpes of the forearm, the nape of the neck, and the cheek, I have found the trichophyton invading the hairs. The relation which the actual herpes bears to tinea will be noticed presently. The affections (parasitic) are unsymmetrical as a rule, and hence differ in a material point from syphilitic cases. Chloasma (pityriasis, or *tinea versicolor*) affords no exception to the rule, that the hairs are always affected in parasitic cases. Care is required in examining them here, for they are delicate; but the microsporon furfur will be found infiltrating the hairs,—certainly in a less degree than in the other varieties, still distinct. I once met with a very curious case of chloasma, and may be excused for mentioning it here, since the evidence of its production from the implantation of the *oidium albicans* is pretty strong. I intend to refer to that matter in another place and time, in continuation of this present paper.

A young woman, aged twenty-six, an in-patient at the General Lying-in Hospital, three or four days after labor, had some little intestinal disturbance, which was relieved by a warm purgative; there was a little febricula. On the tenth day she was perfectly well, and then complained casually of itching of the front of the chest (mid-sternum) and inner surface of the right forearm. However, nothing was detected. The skin was moist and perspiring. The irritation was evidently due to some local cause, and in the afternoon little bright rings made their appearance; they were in size about that of pin's heads, but gradually increased, the central being of a lighter hue than the external part. The eruption was peculiar, consisting of little erythematous circles. Fresh spots appeared during the next few days; the old spots increased to the size of fourpenny pieces; the redness quickly went, and left patches, having all the characters of chloasma (*tinea versicolor*). The changes in any one particular ring were rapid (a few hours sufficing). The diameter of the actual ring kept pretty constant, whilst the area increased: no appearance of vesicle. The redness often disappeared spontaneously, was influenced by pressure, and, if absent, the application of warmth caused its return. The central light-brown tint was permanent, and that part felt harsh. The spots on the arm disappeared after some days, but those at mid-sternum coalesced and formed a patch about two inches square. The majority of the infants in the hospital were suffering from thrush at the time, and it is probable that the growth of the *oidium albicans* produced the chloasma. This is matter for discussion at another period. This case occurred during the time I held the appointment of house-surgeon, and was closely watched by me; I can therefore vouch for the truth of the statements made. It is very rare indeed that the opportunity occurs of watching the onset of such cases from the very commence-

ment. Pityriasis versicolor occurs in people not particularly addicted to ablution, and a little itching would be disregarded; indeed any discoloration itself would attract but little attention until it had acquired some magnitude. Besides, the affection is of so little moment. Had this patient not been in the hospital, no one would have witnessed the progress of the case. The suggestion that the disappearance from the arm of the mother was probably due to the unfavorable conditions present—viz. ablution and the want of those states that were present in the breast (warmth and moisture), is feasible.

But to return from this digression to the case of another parasitic disease, supposed to furnish an exception, as regards the possession of the characteristic mark of tinea—I mean “sycosis.” Authorities affirm that the microsporon mentagrophyta is *confined* to the follicle and the exterior of the hair. So far as my examinations go, this is a mistake. Very frequently, in the earliest stage of sycosis, before the fungus has reached the part of the hair which is in the follicle, the cut ends will be found infiltrated by its sporules. This happened in my own case. I inoculated myself by accident, and many of the hairs extracted were quite healthy, with the exception of the cut edges and immediately adjoining part. The assertion that in sycosis the fungus never extends beyond (out of) the follicle is erroneous.

In true idiopathic tinea decalvans, the sporules are to be found after careful search. You may require to examine several hairs before you succeed. Liquor potassæ must always be used, and sufficient time allowed to elapse for the parts to become transparent. This, I know, is contrary to the experience of good observers. It is especially in this affection that absence of fungus has been noticed; but most observers confound secondary alopecia, or atrophy, with true tinea decalvans. The bald patch may be a sequela of any of the other tinea (due to destruction of the follicles), and of course there need not be any parasite present in such a case. Such a state is a secondary disease, and it is also an effect of true idiopathic tinea decalvans. Atrophy of the hairs is not a distinctive mark of tinea decalvans, for it occurs in every other variety of tinea. The distinguishing features of tinea decalvans are absence of secretion and less severity of the affection of the hairs, in consequence of which they do not become brittle and break off, but remain till the follicle can retain them no longer. Their loss *seems* to be the commencement of the disease; whereas it is only the final effect. The disease is said by good authorities to be acute. Indeed it is not; it is the least acute of any of the tinea.

The practical point to remember in regard to the matter of tinea is, that whenever you meet with a case of skin disease in which you find the parasite sometimes present and sometimes absent, you are not to jump at the erroneous con-

clusion, like Mr. Hogg, that the parasite plays no part in the causation of the disease, and that it is accidental. Certainly, it is (practically) true that the fungus is not the cause of the eruptive disease, and is so far accidental; but it is the cause of the tinea present in those cases where the parasite is found, for if you will examine the hairs you will find the microscopic characteristic appearances in the one case, and not in the other. For instance, Mr. Hogg states that in twenty cases of lepra and psoriasis, he found the fungus in one half, in two of three of lichen, four of six of eczema, &c.; and he argues that the parasite cannot be the cause of the disease (the eruption), and so far he is correct; but it is evident that he entirely misunderstands the true parasitic disease. No one has called attention to this error into which observers have fallen. The chronic skin diseases occur in situations where the hairs are few in number, and the effect of the parasitic growth is of no moment compared with the concomitant eruption.

And now we are prepared for the question, what relation does eruptive generally bear to parasitic disease? It is *unnecessary* to the evolution in full force of parasitic disease. The history of tinea decalvans, alone, is a sufficient guarantee of the truth of this statement. I have lately seen a case in which the hair of the scalp, beard, and whiskers was lost, and not a particle or sign of eruption present. Eruption, too, is generally secondary, and not primary: so it was in thirteen or fourteen cases of tinea tonsurans, I have lately observed. I assert, as founded upon fact, that, be eruptive disease present to ever so great a degree, the *characteristic effects of tinea* are never produced by it alone, without the growth, in addition, of a parasitic plant. Again and again I have examined the hairs in non-parasitic eczema and the like, but never could find the damaged hairs of tinea. But eruption often precedes (and follows, as a rule) the onset by the fungus; and it is to be observed that the amount of parasite and eruption are in direct ratio.

That there is some particular pabulum for which parasites have an affinity—indeed, which they demand for their growth—is generally admitted: and it is usually taught, that tuberculous, scrofulous, and dirty people, furnish the best nidus. Now, it is just these very people whose general nutrition is disposed to exhibit non-specific eruptive disease. The preceding facts allow the inference, that the greater severity of tinea, when it occurs conjoined to eruption, is due rather to the greater amount and the quality of fitting pabulum present—of which the eruption is the full index—than to the presence of the eruption itself. The favorable soil may exist without eruption, but then in less amount. No doubt eruption (that is, secretion) aids the development of fungi, by retaining heat and moisture and affording protection. It is not unsound to suppose that the mere irrita-

tion produced by the fungus growth may so damage local nutrition as to disturb the balance, and thus favor the occurrence of eruption in an apt subject. The presence of non-specific eruption, beyond supplying certain minor conditions, can only be regarded as an index to the existence in the best possible degree of a favorable soil.

They who dispense with the microscope in the diagnosis of skin affections cannot avoid confounding severe eruptive with parasitic disease. They of course disregard the only (diagnostic) mark of distinction; the naked eye characters will not alone suffice.

Annular non-parasitic eruptions are oftentimes classed as parasitic. No doubt the majority of a circular form are so in reality; the shape is presumptive of such a nature.

There are many considerations which tend to show that simple eruptive have been mistaken for parasitic affections. I mention one. The treatment stated to have been adopted with such extraordinary success in well-marked and severe cases (?) has completed a cure too speedy for true tinea; whilst on the other hand, it is just the method most calculated to act beneficially upon those very affections most frequently confounded with parasitic disease. I refer especially to the exhibition of arsenic. Mr. Hogg states that five-sixths of parasitic cases are cured by its use, without local means. This is true of non-specific eruptive disease.

Eruptive disease, then, is a concomitant, not a necessary part, of parasitic disease, denoting favorable soil. The affection of the hairs is the real parasitic disease.

I wish to say a few words in regard to the influence exerted by age upon the occurrence of tinea. Mr. Hutchinson lately, at the Pathological Society, gave a supposed satisfactory explanation concerning tinea versicolor (chloasma)—viz., "that at or about the age of fifteen the human scalp ceases to be accessible to the attacks of the fungus of ringworm, and that at or about that age the epidermis of epigastrium became for the first time a fitting pabulum for that of pityriasis." Again, he stated "that the immunity of adults from ringworm of the scalp is, no doubt to the greater hardness of the cortex of the hair in adults than in children." Now there are errors contained in these explanations. The human scalp may be attacked with ringworm at an advanced age. Dr. Hare has recorded a case, occurring at the age of twenty, as a curiosity. I have at present under observation a case of tinea tonsurans (one of the worst I have ever seen) in a woman, aged forty-three. The disease is most obstinate, and requires most careful and minute search to detect quickly and destroy the parasitic growth, which keeps constantly relighting up into activity. Parasitic herpes circinatus I have seen well marked in a woman aged eighty-seven. The epithelium of the epigastrium is not more particularly liable *per se* to be affected

after fifteen than that of any other part of the body. The concomitant conditions are more active in favor of the occurrence of tinea versicolor (chloasma) about and after this age, not merely because of the existence here especially of moisture and heat, due chiefly to the use of flannel, but more particularly since ablation is most decidedly less frequently and less efficiently practised than during the previous age. Mr. Hutchinson's statement implies that the epithelium of the epigastrium (and front of the chest) is not liable to be diseased till about fifteen, as though some special modification were effected at this time in its nature. It would be more correct to say that up to about such period the counteracting causes of implantation had been in constant action, such being the practice of thorough ablation which all young people undergo.

The greater hardness of the hair of adults will not explain their immunity, for the cortex has nothing to do with the onset of the parasitic growth, which makes its way through the soft growing part,—and that can take place in the adult as easily as in the child. The quality of the cortex can only influence the disease by the greater resistance it offers to the growth in the one case than in the other. It really appears, oftentimes, that the hairs of the adult are more rapidly destroyed than those of the child, on account of their greater brittleness.

Adults are less liable to ringworm than those of an earlier age, because they possess in less degree that peculiar condition of nutrition which is best fitted for parasitic growth. As age has advanced, the eruptive crisis has given place to organic disease, more properly so called; and hence less opportunity is afforded for fungoid development. The circulation of the scalp, and the changes taking place there, are exceedingly active in the child, and eruption is "determined" to this quarter, as it were, in the young. The paucity of ringworm, and the scarcity of most eruptive diseases, are in direct ratio.

Be upon your guard in obstinate, annular, unsymmetrical skin diseases; they are frequently complicated by parasitic disease.

No satisfactory explanation has been as yet given of the granular layer described by Robin as occurring in favus especially (this is common to fungi and algæ generally). It is met with in tinea tonsurans, in the worst cases. This "stroma" may be the apparent sole abnormal product present. On the addition of liquor potassæ, and allowing a little time to elapse, it is frequently seen to be due to sporules—small certainly, but distinct—closely packed together. On one occasion, when this granular stroma was especially manifest, the hair was so loaded, that when the contents welled up, the cortical part gave way, and I saw a regular discharge of sporules take place, the stroma being thus clearly shown to be composed of sporules. (The amount of fluid influences materially the size of the sporules.) In other cases, this stroma appears

to be composed of minute spherical (?) bodies (minute sporules). Are they all cellular? They are not fatty nor mineral. There are transitional stages, between the extremes. Is it another form of the fungus.

Dr. Lowe has found the nuclei produced by the rupture of the torula-cell capable of perpetuating them as such *ad infinitum*, and such seems to be the case with the "stroma" of tinea. The appearance of amorphous particles, at any rate, is often deceptive, and really due to sporules, closely packed together. At another time, the particles are nothing more nor less than nuclei.

The twisting of the hairs, so frequently observed, is due to—

1. Plugging-up of the follicular orifice by secretion, and detention of the upper part of the shaft of the hair, while the formation at the papilla still continues. You may sometimes pull out half an inch from beneath the false operculum.

2. There may be no secretion to explain it; then it is usually due to the presence of mycelium in the follicle, which clings to the hair on one side, and the follicle on the other, blocks up the follicle, and holds the hair (whilst it continues forming) to the diseased spot.

3. It may be due to the mere pulling out, in which case you usually find,

4. Local infiltration by spores, which weaken the particular spot at which the bend occurs.

After the head has been shaved, the cut ends of the hairs may be infiltrated by the spores, and the follicular part be healthy; therefore, search carefully every portion of the hair for disease.

There are many other interesting points I should like to touch upon; but I have already exceeded decent space.

In speaking of the parasites, I have made very little mention of the different forms or kinds, but have spoken of them in a general sense, since they all produce the same kind of disease upon the hairs. There is a strong tendency (as evidenced by the observations of Dr. Lowe especially) to regard many of these fungi as mere varieties of two or more species. I believe I am in possession of certain facts which, if not sufficient to prove, at any rate justify the belief, that there exists but one essential fungus attacking the human surface; that the varieties are due to differences in the condition of soil, moisture, and the like, which the plant meets with in its evolution. I intend, very shortly, to communicate my reasons and facts supporting such an affirmation.

In regard to the treatment of tinea, and chronic skin disease complicated by tinea, there are many important points which deserve attention or correction, if the foregoing statements be correct, and which I shall take the opportunity of noticing, very briefly, in continuation of this paper, from which I have "cut out" every superfluous sentence, and on which account I fear

some of its contents may require further explanation.

Gloucester-gardens, June, 1859.

### CLINICAL ILLUSTRATIONS OF DISEASES OF THE ABDOMINAL VISCERA.

BY STEPHEN H. WARD, M.D. LOND., L.R.C.P.,  
PHYSICIAN TO THE SEAMAN'S HOSPITAL, "DREADNOUGHT," ETC.

#### JAUNDICE.

Faithful records of cases are at all times valuable, either as affording confirmation of views previously entertained, or as presenting for our consideration new facts or exceptional peculiarities. I need not, therefore, apologize to my professional brethren for introducing to their notice the following illustrations of a subject which has been so effectively treated of by Dr. Budd in his excellent work on "Diseases of the Liver."

Jaundice resolves itself into two heads or divisions,—viz., 1, from partial or complete suppression of bile : 2, from obstruction to its passage into the intestine. This is the arrangement of the subject adopted by most systematic writers, and is, indeed, the only logical one. Jaundice from suppressed secretion may be further resolved into, (a) from impaired secreting structure, as in primary or secondary congestion of the liver, adhesive inflammation, suppurative inflammation, atrophy, and disintegration of secreting cells ; (b) from mental or moral emotions ; and (c) from the presence of poisons in the blood, as of mercury, certain miasmata, the peculiar poison of acute rheumatism, &c. Jaundice from obstruction to the flow of bile through its ducts resolves itself into (a) causes within the duct, as the presence of gall-stones, inspissated mucus or bile, inflammation of the lining membrane, and probably spasm ; (b) causes external to the duct, as scirrhus of the liver or pancreas, enlarged lymphatic glands, loaded state of the large bowel, pregnancy, and strangulation of duct by the products of adhesive inflammation effused around it.

I have not the materials at hand to give illustrations of all these causes, but I shall now, following the logical arrangement of the subject, proceed to give examples of several.

**CASE 1.—Jaundice from acute congestion of the liver.**—Wm. S—, a Scotchman, aged thirty-nine, was admitted into the *Dreadnought* on August 20th, 1858, having been ill for about a month, and well previously for several years. When attacked, he was in Southampton, and had been drinking hard for several days, and had eaten oysters which were bad. Is not, according to his own statement, an habitual drunkard. The attack came on with vomiting, inability to retain anything on his stomach, and diarrhoea. He had pain in the left side, but not in the right. In the course of about a week, he became jaundiced ; his stools were white, and urine almost as deep as porter in color. For

the last two or three mornings he has had shiverings.

On examination, his liver was found to extend beyond its limits, below the ribs, and to the left side, and there was tenderness on pressure. The stools were ex-bilious, the urine was charged with bile, and the skin and conjunctivæ were jaundiced. The tongue was moist and nearly clean ; the pulse rather frequent. Ordered milk and beef-tea ; five grains of calomel at night ; a drachm of compound jalap powder in the morning ; and the following mixture three times a day : compound decoction of scoparium, an ounce and a half ; dilute nitric acid, ten minims.

Aug. 21st.—The bowels have been freely relieved, but the motions are ex-bilious, and there is marked tenderness over the left lobe of the liver. Ordered dry cupping, and the nitro-muriatic acid bath night and morning.

23d.—Says he feels better, and has lost the tenderness. Two stools since yesterday, with faint indications of bile in them. To repeat the dose of calomel at night, and the compound jalap powder in the morning.

24th.—Stools still ex-bilious, and liver enlarged. It was thought advisable to put him under the influence of mercury, and he was ordered a grain of calomel, with a quarter of a grain of opium, every four hours.

This plan was continued up to the 27th, when, the mouth being well affected, it was discontinued. There was now decidedly more bile in the stools, and the liver seemed reduced in size. He was ordered five grains of iodide of potassium, half a drachm of extract of taraxacum, in an ounce of water, three times a day ; and the compound iodine ointment to be applied on flannel over the region of the liver.

On the 28th, the stools were more bilious ; and on the 30th, the urine was free from bile, the motions were duly charged with it, and the jaundice was disappearing. From this period, the liver continued to perform healthfully its functions, and he was discharged, cured, early in September.

**CASE 2.—Jaundice, from congestion of liver.**—A Cephalonian, aged twenty-four, was admitted into the *Dreadnought* on the 26th of July, 1858. Had been jaundiced for sixteen days, and, when attacked, had pain over the stomach. His liver, on admission, extended somewhat beyond the normal limits ; but there was no tenderness on pressure, nor pain, either constant or paroxysmal. His motions were white ; urine of a deep color ; skin and conjunctivæ deeply jaundiced. Ordered, milk and beef-tea, a dose of compound jalap powder, and the following : dilute nitric acid, ten minims ; extract of taraxacum, ten grains ; compound decoction of scoparium, one ounce and a half ; three times a day.

July 27th.—Bowels not open. Ordered five grains of calomel, to be followed, after a few hours, by an aperient draught.

23th.—Motions confined, and quite ex-bilious. Ordered, five grains of calomel, and a drop of croton oil, which produced free action of the bowels, but no appearance of bile.

Aug. 1st.—Stools still ex-bilious. Ordered, calomel, one grain: opium, a quarter of a grain, three times a day; mercurial ointment, compound iodine ointment, equal parts, to be rubbed over the liver, and a hot bath every other night.

This plan was continued up to Aug. 13th, when the motions were more bilious and the urine freer from bile. As the mouth was slightly affected, the pills were discontinued.

On the 18th, the liver was found to be reduced, and the stools almost normally bilious.

On the 20th, the urine was clear and free from bile, and the complexion clearing.

He was discharged, cured, on the 24th.

CASE 3.—*Jaundice, from acute hepatic congestion.*—John P—, aged nineteen, generally temperate, according to his own account, and living in London at a boarding-house, was attacked, about a week before his admission into the *Dreadnought*, with jaundice and slight pain in the right side. Admitted March 18th, 1858. Has jaundice, dark urine, white stools, and febrile excitement. Ordered a drachm of compound jalap powder, and a dose of calomel twice a day. For two or three days, he seemed to improve, but on the 26th the stools were still ex-bilious, and there was more tenderness over the hypochondrium. Ordered eight leeches over the hepatic region, and to rub in the mercurial liniment. On April 6th the mouth was affected, and he was ordered to omit the pills and liniment, and to take five grains of iodide of potassium three times a day. Some bile in the motions.

April 7th.—Has had one firm motion, with a normal quantity of bile; has had slight epistaxis.

From this date he continued to improve; the stools continued bilious, the urine clear, and the skin regained its proper hue. Discharged cured on April 16th.

The comparatively sudden onset of the symptoms in these cases, the circumstances under which the attack took place, the more or less pain and tenderness over the region of liver and epigastrium, the enlargement of the viscus and suppression of its functions, and the absence of indications of morbid state in the heart and other organs, pointed to direct acute congestion of the liver. In the first case, and probably also in the second, the attack ensued upon a course of hard drinking, and was due to the direct stimulating action of the alcohol. This, as has been shown by physiologists, does not, like other articles of food, pass into the general circulation, but directly through the portal vessels to the liver, and, by its stimulating action upon the capillaries, determines an increased flow of blood to the organ. This temporary

overcharge of blood may be relieved in many cases, by increase of function. Such natural effort at relief was exhibited in the bilious vomiting and diarrhoea which marked the onset of the attack in the case of S—, but probably from the individual keeping up the exciting cause, was ineffectual. When such an effort of nature is not set up, or is unattended with success, congestion is established, the organ becomes distended, the flow of blood through it is arrested, its functions seriously interfered with, and jaundice, &c., result.

In two of the above cases, as the symptoms were not very acute, it was thought desirable to make trial in the first place of drugs which have a known stimulating and alterative action upon the liver, and which, by relieving the overcharged portal system, directly tend to remove the hepatic congestion. Recourse was accordingly had to such remedies, but without success. From the fact that the symptoms did not begin to yield until the patients were brought under the influence of mercury, and from the rapidity with which they disappeared on the establishment of such influence, congestion had probably gone on to the first stage of adhesive inflammation. In cases of advanced cirrhosis which have come under my observation, there has generally been an early history of gastric and hepatic derangement, epigastric or hypochondriac fulness or tumor; and there can be little doubt but that attacks of congestion, induced by drinking, such as I have narrated, constitute the first stage of cirrhosis. The patients are, it is true, apparently cured at the time; but some damage has been done to the liver—some portion of its structure probably destroyed by products of adhesive inflammation, and after a time, under further exposure to the exciting cause, the disease, with its train of formidable results, is established.

CASE 4.—*Jaundice from congestion of liver, secondary to heart disease.*—Lucas J—, aged thirty-seven, a tall, muscular man, of lymphatic temperament, was admitted into the *Dreadnought* on June 8th, 1857. He had just returned from Australia, where he had been working at the “diggings.” Until eight months ago he had enjoyed uninterrupted good health, except that he had once had an attack of ague. While at the diggings he was attacked, after getting very wet, with shortness of breath and palpitations, followed by swelling at the epigastrium, but no jaundice. The food on his passage home was wretchedly bad. He now complained of dyspnoea on slight exertion. The liver extended for two fingers’ breadth below the free border of the ribs, and unduly towards the left side. There was a soft, regurgitant, mitral bruit, most audible when he was in a recumbent position. The urine was slightly tinged with bile, but not albuminous; there was a dirty hue of skin, and some blueness of lips; the stools were formed and bilious. He was ordered a drachm of compound jalap powder

every other day, and the following :—Acetate of potash, half a drachm; spirit of nitrous ether, half a drachm; tincture of squills, ten minims; compound decoction of scopolarium, an ounce and a half, three times a day; and to be placed on milk diet.

June 11th.—As the liver was not acting, he was ordered in lieu of the diuretics, twenty minims of the dilute nitro-muriatic acid with the compound decoction of scopolarium, three times a day; the nitro-muriatic acid lotion to the right hypochondrium, and a pediluvium of the same every night. This plan of treatment was continued for nearly three weeks.

30th.—Liver somewhat reduced; motions deficient in bile; urine containing bile and lithates, specific gravity 1028. Ordered a grain of iodide of mercury night and morning. On the 8th of July this medicine was omitted, as the gums were tender. On July 18th, he had cough, with some roughness of breathing beneath the right clavicle; and as he was getting anæmic and cachectic, he was ordered some cod-liver oil twice a day, and the following three times a day: tincture of sesquichloride of iron, ten minims; tincture of squills, fifteen minims; compound decoction of scopolarium, an ounce and a half; and a large mercury-with-ammoniacum plaster was applied over the liver.

July 28th.—Hepatic symptoms more marked; deficiency of bile in motions; urine very scanty, and highly charged with bile and lithates; sputa bilious; marked jaundice; drowsiness and evident tendency to coma; blueness of lower extremities. He was freely purged with a drop of croton oil and five grains of calomel, and was ordered the compound decoction of scopolarium, with taraxacum and bicarbonate of potash, three times a day. Under this treatment, the comatose tendency disappeared, the jaundice became less pronounced, bile reappearing in the motions, and the urine, though highly charged with bile, being more copious.

August 7th.—Urine but little charged with bile; jaundice materially less; liver reduced in size; mitral bruit still evident, and rather harsher in quality. Ordered to continue the medicine, and rub the compound iodine ointment over the right side every night and morning.

He continued the treatment, with slight changes in the medicine and diet, according to variation in the symptoms, up to September 18th, when he was discharged. The bowels were kept well open throughout. When he left the hospital, the liver was reduced almost to its normal limits, the secretions were healthy, the jaundice had disappeared, and the mitral bruit was scarcely audible.

It is probable that the cardiac disease in the above case was of long standing, either the result of acute rheumatism, or established during the ague attacks from which the patient had suffered some months previously to his exposure to damp at the "diggings." Under the influ-

ence of the fresh exciting cause and arrested function of skin, general congestion of the internal organs would appear to have taken place, the embarrassment of heart and lungs being evidenced by dyspnoea and palpitations, and the secondary implication of the liver by hypochondriac fulness. Regarding the hepatic congestion, then, as resulting from obstruction to the circulation in the diseased mitral valve, it was evident that we must look for relief to diuretics and saline purgatives, rather than to the specific action of mercury. This was quite unintentionally induced by the few doses of iodide of mercury which were given with a view to alterative and cholagogue action, and the consequence was, an increase of cachexia, &c. The condition of the patient on the 28th of July was most precarious: the bile was not being eliminated by its proper channel, and the kidneys were scarcely affording any compensatory action; the blueness of extremities and tendency to coma marked blood imperfectly aerated, and probably poisoned also by the presence of altered bile. Free purging, however, followed by medicines directed to the kidneys and liver, brought him out of danger, and a continuance of such remedies for some weeks, placed him in the state of comparative safety and good health in which he left the hospital.

With respect to cirrhosis as a cause of jaundice, it is remarkable to how great an extent the liver may be affected with this disease, and no jaundice result. It is, as Dr. Budd has pointed out, more particularly a consequence, when the principal divisions of the excretory duct are strangulated by effusion of lymph around them. On analyzing seven cases of cirrhosis, of which I have the notes before me, I find that in only two was there deep jaundice; in the others, no stain of the conjunctivæ, but merely a dusky or sallow hue of the skin, and not always this. In five of the said cases, bile was discharged to a greater or less extent by the normal channel; in two, it was almost absent from the motions, but there was compensating excretion by the kidneys. In one case, there was no bile in the motions or urine, and no jaundice; no bile apparently formed, and yet tolerable health and vigor were maintained for a considerable time. The patient was, however, emaciated. Exceptional cases like this are occasionally met with in practice, and should teach us not to indulge hastily in generalizations.

The following case of jaundice from cirrhosis is introduced, from its exemplifying an important point of treatment:—

CASE 5.—*Jaundice; cirrhosis of the liver.*—A lad aged eighteen, of dark complexion, was brought into the *Dreadnought* in September, 1856, presenting the following history and symptoms:—He had been for one or two voyages to the East and West Indies, and had had repeated hepatic attacks. He complained of uneasiness and tenderness on pressure in the right hypochondriac region. There was diminished dull-

ness on percussion over the sight of the liver, and evident retraction of this viscus; dusky yellow hue of skin and conjunctivæ; urine of deep porter-like color, and loaded with bile; alvine evacuations sometimes and generally darker than natural; at other times paler; bowels either confined or very relaxed; ascites to moderate extent, with gorged superficial abdominal veins; no anasarca; occasional, rather free, epistaxis; tongue furred; appetite variable. Ordered taraxacum, with nitro-muriatic acid, and compound decoction of scopolarium. For the first month after his admission, he improved somewhat as regards secretions, extent of ascites, &c., but towards the commencement of November, the ascites increased, and the color of the urine and skin became deeper than ever. About Nov. 20th, he complained of rather acute pain in the right hypochondrium, and a blister was ordered to be applied over this region. This, instead of relieving him, produced strangury and great distress. There ensued general tenderness over the abdomen, tympanitis, obstinate constipation, and almost complete suppression of urine. After a few hours he became delirious, then comatose, and died. On inspection, the peritoneum presented marks of recent inflammatory action, and its cavity contained a considerable quantity of serum. The liver was a model specimen of cirrhosis; much retracted, and weighing about two pounds and a half; its capsule thickened, and entire surface irregularly nodulated; incision resisting and fibroid; cut surface of uniform yellow color.

In the above case, percussion marked a decidedly contracted liver; the ascites without anasarca, and the engorgement of superficial abdominal veins, were diagnostic of formidable obstruction in the portal system of vessels. It may be asked,—Could the adhesive inflammation of the liver in a boy so young have been induced by abuse of alcoholic liquors? My own observation of the habits of sailors from the commencement of their career, compels me to answer in the affirmative. I have seen a ring of young sailors drinking gin, glass by glass, for several rounds, their elders encouraging them in their dissipation. No doubt the high temperature of tropical regions may assist in determining the disease; but the fatal "fire-water," as the American Indians called it, is the primary exciting cause.

Suppurative inflammation of the liver is, speaking from my experience of the disease, not usually attended by jaundice. Of eight cases of this affection which have come under my treatment within the last two years, only two exhibited any trace of jaundice, and but in one was there any bile in the urine. In three or four of the cases, a very large portion of the liver was destroyed, but the surviving healthy structure seemed adequate to the effected secretion of bile. In one of the cases in which jaundice was present, there were but small points of suppuration, and the liver was generally en-

larged from congestion; and from this latter condition, no doubt, the jaundice resulted. I find that Dr. Morehead states, as the result of his experience, that jaundice is by no means a constant symptoms of suppurative hepatitis.

The following is a case in which there was probably disorganization of the secreting structure:—

CASE 6.—*Jaundice; impaired secreting structure (?)*—Geo. H.—, aged fifty, of dark complexion, was admitted into the *Dreadnought* on Aug. 15th, 1858. Twenty-five years ago he had typhus fever, but no illness since then up to two months back, when, on his passage from Cronstadt, he was attacked with a bad cold, and pain in the right side of the chest, extending back to the shoulder. He was cupped, dosed, and got relieved in about eight days; but continued languid and weak, and had no appetite. Three weeks before admission his skin became yellow, urine deep-colored, and stools white. Fifteen or sixteen years ago, he drank heavily of rum, and continued to do so at intervals for five or six years; but since then he has been very temperate. Diarrhoea came on the day before admission—he thinks from eating an apple. His stools were now of dark-brown color, soft, and offensive. He had deep jaundice and irritation of the skin; the urine contained some bile. There was some tenderness on firm pressure under the ribs, but no increase of dullness on percussion. He was weak, emaciated, and anæmic. Ordered mercury with chalk, three grains; compound ipecacuanha powder, five grains; night and morning: dilute nitric acid, ten minims; compound decoction of scopolarium, an ounce and a half; three times a day. Beef-tea, with wine.

Aug. 20th.—One dark, bilious stool; urine less charged with bile; is very drowsy, and has pain in his head. Ordered, one drachm of the sulphate of magnesia to each dose of the mixture.

22nd.—Itching in skin again troublesome; one loose stool; tenderness over gall-bladder (?) His pulse is feeble, and he feels much depression; his feet and lips are cold. Ordered, dry cupping over the liver, to omit previous medicines, and to take the following three times a day:—Sesquicarbonate of ammonia, five grains; compound spirit of ether, half a drachm; to an ounce and a half of water.

23rd.—Stools deficient in bile; urine deep colored. Ordered, the nitro-muriatic bath night and morning.

25th.—For the last two days there has been more bile in the stools; but as the bowels were rather confined, one drachm of compound jalap powder was ordered to be taken directly.

27th.—Motions again less charged with bile; conjunctivæ much stained. Ordered, calomel, one grain; opium, a quarter of a grain, three times a day. On the 31st, the motions were more bilious, and, as the mouth was slightly affected the pills were discontinued, and he was



ordered, iodide of potassium, five grains; extract of taraxacum, half a drachm; infusion of gentian, an ounce and a half, three times a day. He continued from this time up to September 9th, the motions varying in frequency and character. On the 9th, he complained of pain in the head, and was very drowsy; but these symptoms were removed by free purging with compound jalap powder.

Sept. 11th.—Motions almost ex-bilious. Ordered again the nitro-muriatic acid bath, and nitric acid with gentian. His diet, which had been at first milk and beef-tea, then ordinary, was now changed to full. Under this treatment, he gained somewhat in point of health and strength, but his motions continued almost entirely devoid of bile, and very offensive, his urine deep-colored, and the jaundice of as dark a hue as ever. On the 16th, he left, at his own request, for his native place, Hartlepool.

The above case, though not followed out to its termination, is one of considerable interest. The man had lost much flesh and strength, and by the appearance of the inside of his lips, was very anæmic. The excessively deep and persistent jaundice indicated some interference with the secretion of bile; but the occasional appearance of this in the motions forbade the supposition that there was permanently obstructed duct. There was more jaundice, too, at an early period of the attack, than is commonly met with at any stage of cirrhosis. The very deep jaundice, the emaciation and debility, the evidently depraved state of the blood, and the threatenings of cerebral complication, seemed to me to point to some disorganization of the secreting structure of the liver, consequent either upon congestion or some obstruction, subsequently removed, to the passage of bile by its usual channel. The case constrasts well, in several points, with one to be related presently, in which there was a permanently obstructed common duct, but in which, although the jaundice had lasted for some months, there was not much loss of flesh and power, and no head symptoms occurred.

On what does the cerebral complication, or the threatening of such, depend? Not simply on the presence of bile in the blood, because, in the case of persistent jaundice just alluded to, there were no cerebral symptoms. Probably the true explanation is that given by Dr. Budd, that there is some decomposition going on in the liver, and absorption of the poisonous products thereof into the blood.

I pass on to the consideration of the suppression of biliary secretion, and consequent jaundice, from mental exhaustion and moral emotions. Protracted effort and anxiety of mind; the various passions, rage, grief, jealousy; the "green and yellow melancholy;" disappointment in love or in commercial speculations, are amongst the exciting causes of jaundice from suppression. The disturbance of the functions of the liver, under such influences, accounts for the prominence assigned to this organ by the

older poets, and even philosophers, in relation to the moral emotions. How these causes act in suppression of hepatic secretion, whether by diversion of nervous influence, or by constriction of capillaries, as those of the skin under the influence of fear, &c., it is difficult to say. Cases of jaundice from such causes are, of course, familiar to all. Amongst those that have lately come within my own experience, one has been from disappointment in love, another the result of over-work and anxiety; a third occurred in a gentleman who had had a serious quarrel with a friend. In answer to enquiries about an individual's antecedents, a little time back, for the purposes of life assurance, it was stated that "he got jaundiced once after a bad debt." I cite the following case by way of illustration.

CASE 7.—*Jaundice from suppression of bile.*—A medical practitioner, between thirty and forty years of age, who had recently entered upon the charge of a large practice, and had had much fatigue and anxiety in connexion with midwifery cases, found that his skin was getting yellow, and his urine deep-colored, and consulted me on May 11th, 1858. When I saw him he was distinctly jaundiced; his skin was unsperspiring, but the tongue was clean, and there was no fever. On the following morning I found the urine rather deep-colored, and the motions almost white. He had no pain or tenderness over the region of the liver. I prescribed a vapor bath, a mixture of sulphate of magnesia, taraxacum, and sweet spirits of nitre, three times a day, and five grains of blue pill at night. On the Wednesday the secretions were much the same, but there was a faint yellow tinge in the motions. To continue the mixture, and, as the bowels had not acted freely, to take another blue pill at night, and a drachm of compound jalap powder the following morning. This produced one or two stools, containing a fair amount of bile.

The absence of pain, tenderness, and constitutional disturbance are diagnostic features of this form of jaundice. It does not, however, always disappear rapidly. It may, indeed, become persistent; secondary changes may take place in the secreting structure of the liver, and a fatal termination be the ultimate consequence.

Jaundice from obstruction to the flow of the bile into the intestine occurs occasionally during the protracted passage of gall-stones, and disappears with the cause. The following case well illustrates the diagnostic symptoms of obstruction when persistent.

CASE 8.—*Jaundice from obstruction of duct.*—Chas. H——, aged thirty-five, was admitted into the *Dreadnought*, on Feb. 10th, 1858. In May, 1856, he had diarrhœa, when in the Mediterranean, for two months, but got well, and remained so until July, 1857. He then, while off the coast of Nova Scotia, suffered from headache, which was followed in a week by jaundice, with severe pain in the right side and at the pit of the stomach, which was worse in paroxysms;

his stools were then almost white, and his urine deep in color. He formerly drank very hard, was sick at times, and unable to take solid food. In November last he took mercury to pytalism, but without relief to his symptoms. On admission, his general condition and power were pretty good; but he was deeply jaundiced, his urine was charged with bile, and the motions were white. He had hæmorrhoids. Ordered compound jalap powder, one drachm, every other morning, the nitro-muriatic acid bath at night, and the following three times a day:—Dilute nitric acid, ten minims; extract of taraxacum, ten grains; compound decoction of scopolarium, one ounce and a half.

Feb. 17.—No improvement. Ordered iodide of mercury, one grain, night and morning, and the following:—Iodide of potassium, five grains; acetate of potass, one drachm; compound decoction of scopolarium, one ounce and a half, three times a day.

19th.—Motions quite devoid of bile; urine deeply charged with it, and copious—about two quarts in twenty-four hours.

March 3rd.—Stools the same. To discontinue the iodide of mercury, as his mouth is sore.

This man continued in the hospital until the end of March. Iodine and mercury, externally and internally, pustulation with tartar-emetic ointment, nitro-muriatic acid bath, electricity, &c., were successively tried, but without any good effect. The history of the case, the mode of attack, the persistent jaundice, and utter and constant absence of bile from the alvine evacuations, indicated closure of the duct; but whether from the products of adhesive inflammation effused around it, or from inflammation and obliteration excited by a gall-stone, it was difficult to determine. The paroxysmal pain at the onset of the attack would seem to point to the latter cause. When the closure is caused by pressure of scirrhus tumors or tuberculous glands, we should have symptoms resembling those narrated in the last case, plus the phenomena of the specific affection.

I have thus cited illustrations of jaundice from different functional and structural derangements of the liver. I cannot but allude with some satisfaction to the light which morbid action is ever throwing upon healthy function. Chemists are still undecided as to the exact composition and uses of bile; but the phenomena of disease, in cases such as I have narrated, have given us nearly all the insight we possess into the real purposes of the liver. From the comparative torpor of the brain, and the effort with which it performs its functions in some cases, and the more serious cerebral symptoms in others, where there is no secretion of bile by its usual channel, and imperfect elimination, perhaps, by the kidneys, we learn that this fluid contains materials, the separation of which from the blood is essential to health. And analyzing the cases a little more closely, we find that the evil day of cerebral implication more immediate-

ly impends where the actual secretion is arrested than in those in which the fluid has been separated from the blood, but has been prevented by obstruction in the ducts from passing off in its usual course. The anæmia, passive hæmorrhages, &c., which ensue when the secretion of bile has been interfered with for any length of time, show the effect upon the blood itself. One symptom seems to result from the absence of bile, for any lengthened period, from the intestine, and that is emaciation, or, at any rate, non-renewal of adipose tissue. It confirms the views of chemists, that bile contains a soapy kind of material, which effects the solution and consequent absorption of the fatty portions of the chyme. Recent experiments would seem to show that the pancreatic juice is adequate to the solution of fatty matters; but my own observation of the consequences which ensue where the bile is absent, leads to the conclusion stated. The constipation which attends the deficiency (or absence of bile, and the diarrhoea consequent upon its excess, prove that the purpose of part of its ingredients is to stimulate the peristaltic action of the bowels, and promote the removal of excrement. Further, the offensive character of evacuations devoid of bile points conclusively to its antiseptic properties.

In conclusion, I have one or two observations to make in reference to the treatment of jaundice. There is one principle to be borne steadily in mind in all cases, whatever their cause, and that is to promote in every way the functions of those organs by which compensatory elimination of bile is effected. To carry out this principle, we must avail ourselves of warm and vapor baths, saline purgatives, and the various kinds of diuretics. In Case 5, I exemplified the fatal results which follow suspension of the function of the kidneys through the action of a blister. Acting upon the experience derived from the case in question, I would advise, under similar circumstances, that recourse should be had to some other form of counter-irritation than blistering—such as strong liquor of ammonia, mustard plaster, &c. The strong blistering fluid, which produces vesication quickly, would be less likely to be absorbed into the blood.

In jaundice from acute congestion of the liver, leeches, cupping (either with or without the scarificator), fomentations, &c., over the region of the liver, and saline purgatives to unload the engorged portal system, are the curative measures most likely to be followed by relief. When the congestion is primary, due to spirit-drinking, and such as may go on to inflammation of the adhesive character, mercury pushed to slight specific action, and followed by iodide of potassium, would appear by the cases cited to be indicated. In cases of closure of duct, mercury can do no good; here we can only carry out the principle of elimination by other channels. In jaundice from suppression of bile consequent upon mental or moral causes, the treatment consists in cholagogue doses of mercury, saline

purgatives, diuretics, warm or vapor baths, and, above all, in removal of the exciting or sustaining cause. When bile once appears in due quantity in the alvine evacuations, we must not go on pushing our remedies simply because the skin continues jaundiced; for, as Dr. Budd, who lays great stress upon this point of practice, observes, some time must elapse before the skin can regain its normal color.

Threatenings of cerebral implication are to be met by drastic purging, counter-irritation to the nape of the neck and calves of the legs, and free action on the kidneys; and, as we have seen, may frequently be met successfully.

The following case is interesting as showing the association of jaundice with the poison of syphilis:—

CASE 9.—T. M—, aged twenty two, was admitted into the *Dreadnought* on Feb. 14th, 1859, from a vessel from Shields. He had been ill for eleven days with cough, &c., and became jaundiced a week back. Says that he had not been drinking before he left Shields, nor since, and that he came direct from the ship to the hospital. Four months ago he had chancre, for which mercury was given, but his mouth was not made sore. He had now an elliptical ulcer, with raised edges, on the right tonsil, and secondary papular eruption all over the body. The skin and conjunctivæ were of a bright-yellow color; urine of a deep porter-like color; stools slate-colored, and very deficient in bile. Looking at the specific constitutional disorder, rather than at the jaundice, he was ordered solution of bichlorate of mercury, one drachm, with extract of taraxacum and compound decoction of scopolarium three times a day.

On the 23rd, the secretions and jaundice being the same as when he was admitted, I decided on bringing him more quickly under the influence of mercury, and ordered three grains of calomel night and morning, in addition to the previous medicine. The gums were not distinctly affected until March 2nd. The pills were then discontinued, and, the bowels being constipated, he was ordered a smart aperient, which brought away bilious evacuations.

On March 4th, he had irritability of the stomach and vomiting, and was ordered the alkaline and effervescing mixture. The jaundice was now rapidly disappearing, and the urine becoming clearer.

9th.—One rather confined motion, well colored with bile; skin clearing, but rather unperspiring. To repeat the aperient to-morrow morning, and have a warm bath at night.

18th.—Jaundice almost gone; ulcer on tonsil all but healed, and papular eruption scarcely to be detected. As he was rather cachectic, he was ordered some porter, and cod-liver oil in a mixture of nitric acid and gentian.

Discharged, cured, in the middle of April.

I do not pretend to associate the syphilis and jaundice in the above case in the way of cause and effect. I, however, consider the case im-

portant as exhibiting the development of the latter affection while the patient's blood was charged with the poison of the former, in absence of the usual exciting causes of jaundice; and as, moreover, showing the decline and disappearance of both affections under the remedy which is supposed to exert a specific influence in the removal of the syphilitic poison.

## CASES OF PARALYSIS AS A SEQUELA OF DIPHTHERIA.

By PETER EADÉ, M.D.,

PHYSICIAN TO THE NORFOLK AND N. WICH HOSPITAL, TO THE NORWICH DISPENSARY, &c.

It is well known to all who have had to deal with cases of diphtheria, that severe as is often the affection of the throat and windpipe, and dangerous and difficult to treat as this may be, yet that this local affection is by no means the whole of the malady, and that the constitutional symptoms form a very large and important part of the morbid manifestations which it is necessary to combat. Moreover, these constitutional phenomena have this peculiarity, that not only do they manifest their presence at the outset of the disease,—often, indeed, with such severity as to destroy life before the local and special epiphenomena have had time to develop themselves,—but they also tend to show themselves at a very advanced period, when the local disorder has passed away, and when, in many respects, the patient might otherwise be considered to have recovered from his malady, and to have reached that period when serious results were no longer to be dreaded.

The influence which the diphtheric poison exerts upon the constitutional powers appears essentially to be of a depressing character, both in the earlier and later stages of the disease, and its effects bear a strong analogy to those of some diseases which all allow to be produced by the introduction into the system of a specific morbid poison, such as scarlatina, low fever, and especially some of the more malignant forms of erysipelas; but in none of these—except, perhaps, in some virulent cases of scarlet fever—do we find the nervous system showing more than its due share of the depressing influence, and in none do we find that the effect upon it is sufficiently special to produce at a later period an interruption to the exercise of its peculiar functions, as shown by a more or less complete suspension of its motor or sensory, or special cerebral functions.

The special action of the diphtheric poison upon the nervous system, even from the very first, appears to me to be shown in the rapidity with which its life-destroying agency is manifested—an agency capable, as I have myself witnessed, in the case of an apparently healthy child, of terminating existence in less than twenty-four hours, not from pharyngeal inflammation and exudation, and not from laryngeal strangu-

tion (though both pharynx and windpipe were found, on dissection, to be covered with an incipient false membrane), but apparently from simple vital nervous depression—a depression which has seemed to me to be in many respects peculiar, and to approach nearer to pure asthenia than anything I have witnessed in other cases of acute disease.

That this depressing influence of the poison upon the central sources of life continues beyond the period of the first invasion of the disease is, I think, manifested in the sudden and apparently causeless sinking and death which have occasionally supervened in the course of what appeared to be rapid convalescence from the acute attack; and that it is active at a still later period is shown by the occurrence of various forms of paralysis at a period of some weeks from the date of the first seizure with the disease.

These observations have been induced by a consideration of the following cases (as well as of others), which have lately occurred in my own practice, and which tend, I think, to show, that the later nervous phenomena there recorded are not due to mere poverty of blood—to spanæmia induced by the preceding disease—but that they are due rather to the presence in the system throughout all its stages of a peculiar morbid poison, whose special affinity is for the nervous tissues, its action upon which is shown, in the first instance, by the general vital depression, and subsequently by a more or less complete suspension of the function of particular nerves or systems of nerves.

We do not find that similar forms of paralysis result from extreme anæmia, however induced, whether by hæmorrhage, by the presence of disease of the kidney, or by chlorosis, or that it occurs in convalescence from other exhausting or depressing maladies, the result of animal poisons; and therefore it follows that something is required to explain these effects beyond the ordinary impediments to the blood-making powers which such disorders create, which something is theoretically explained by supposing the specific poison to be of such a nature as to have a peculiar and special as well as destructive affinity for nervous tissue.

The attention of the profession has already been called to the occurrence of paralysis, either local or more or less general, as an occasional sequela to diphtheria, during its present outbreak in this country, by Drs. Gull, Kingsford, Sanderson, Mr. Dixon, and others; but as everything relating to, or illustrative of, the nature of this scourge is at the present moment of the greatest interest and importance, I make no apology for laying before the readers of *THE LANCET* a brief report of the annexed four cases, in which a more or less complete state of paralysis was present, and in all of which this lesion had supervened during convalescence, or even after apparent recovery.

CASE 1.—James G—, aged seventeen, hus-

bandman, admitted a patient of the Norfolk and Norwich Hospital, under my care, November 27th, 1858. He states that about ten weeks ago, and shortly after being discharged from the county prison, he was attacked with diphtheric sore-throat which was then prevailing in the district in which he lived. On recovering from this, at the end of about a month (being then merely suffering from some remaining debility), he began to complain of numbness and weakness of the arms and legs, and, to a slighter extent of the whole trunk. For these symptoms he has been under medical treatment, but without benefit, to the present time.

On admission, he was found to be well and robustly formed, but pale and weak. He complained chiefly of debility, and of numbness and want of muscular power in all the limbs. His power of grasping with the hands was very slight, but rather greater in the right than in the left hand. He waddled in his walk, but did not drag either leg. Reflex actions almost absent; sensibility very slight in both lower limbs, as well as in both hands and arms; the skin of the whole trunk felt slightly numb; pupils dilated; pulse soft and weak; a soft systolic murmur was heard over the base of the heart; urine pale, clear, specific gravity 1009, and free from albumen or microscopic deposit. The throat appeared to be quite well; bowels regular, tongue clean, and protruded straight; appetite moderately good. He was free from pain, in the head or elsewhere, and had never suffered from fits; denied spermatorrhœa or masturbation. Ordered, full diet and a pint of porter, and to take thrice daily the following draught:—Sulphate of iron, two grains; sulphate of zinc, one grain; disulphate of quinine, one grain; dilute sulphuric acid, five minims; water, one ounce.

Dec. 10.—Feels slightly stronger and better; can walk rather more steadily, and has a little more power of grasping with the hands, but the numbness is not much diminished. He is still very pale and anæmic-looking. Ordered a draught consisting of ten grains of citrate of iron to an ounce of water, to be taken three times a day, with the following pill; sulphate of zinc, one grain; disulphate of quinine, one grain; and sufficient quantity of extract of gentian.

14th.—Rapidly improving; can walk much better and grasp more strongly; sensibility is returning in both arms and legs; appetite very good; urine less pale, specific gravity 1018.

27th.—Steadily improving; looks better, and feels much stronger; power of grasping with hands much greater. Reflex action as well as sensibility in legs returning.

Jan. 4th.—Going on well; some numbness of both hands and feet still remains.

29th.—Complains only of a very slight numbness of the right foot; in other respects he is quite well. Discharged cured.

CASE 2.—William N—, aged seventeen, by

occupation a groom, was admitted by me as a patient of the Norfolk and Norwich Hospital on April 2nd, 1859. He states that at Christmas last he was seized with sore-throat, which he was told was diphtheria; that he recovered from this in about three weeks, and returned to his work, but that after a fortnight he was obliged to give it up again by reason of weakness of his limbs. His legs (he says) were first affected, becoming gradually numb, and incompetent to any exertion without great and rapidly supervening fatigue. At this time he had a little pain at the back of the neck, but in no other part. About a fortnight afterwards the legs and hands also began to feel numb and weak, so that soon he could hardly feel anything he touched, and was unable to hold even a cup without using both hands. Now also the face (cheeks and nose) began to feel numb. Besides this he has felt very weak, but has always had a good appetite, and has not suffered from dyspepsia, lowness of spirits, want of sleep, or irregularity of bowels or bladder. Has never been laid up with rheumatism or other severe illness. He adds that three of his brothers and sisters suffered from sore-throat before he was attacked, and that one, a brother, aged twenty-three, suffered afterwards for about a week from slight numbness of both legs and hands, but that he soon recovered. The patient has been under medical treatment, but the numbness and muscular weakness has continued to increase up to the present time.

His present condition is as follows:—He is by no means thin; countenance fresh and cheerful; pupils not dilated; tongue protruded straight. He complains of numbness of the whole of both the lower extremities, and of the arms as high as the middle of the forearms; there is also, in a less degree, numbness of both the cheeks and of the nose. The power of grasping with the hands is much diminished, the loss of volition being equal on the two sides. He straddles in his walk, moves slowly, and is evidently unable to guide his legs correctly. Reflex actions are lively when the soles are pricked with a sharp pen, but can scarcely be excited by any stimulation of the skin with a blunt instrument. The trunk appears to be unaffected. He says he is quite free from pain, and, but for this weakness of the limbs, would feel quite well. Pulse 88, soft and weak; heart's sounds sharp and clear; a moderately rough systolic bruit is audible over the base of the heart; throat slightly relaxed, but not sore; appetite good; bowels regular; urine free, sherry-colored, specific gravity 1025, acid, and free from albumen. Ordered full diet with beer. Sulphate of zinc, one grain; water, one ounce: make into a draught, to be taken three times a day.

April 8th.—Rather better; has more power of grasping with the hands, and walks rather stronger; numbness much the same. The zinc to be increased to two grains for a dose.

19th.—Says he has rather more feeling in the

hands, and rather more power over the muscles of both arms and legs, but sensation in the feet is not much greater than on admission. Citrate of iron, ten grains; water, one ounce: make into a draught, to be taken three times daily, with the following pill: Sulphate of zinc, two grains; sulphate of quinine, one grain; with sufficient quantity of extract of gentian.

May 18th.—has been steadily and rapidly improving since the change of medicine. He can walk well, has little or no numbness, and complains of nothing but a slight feeling of weakness in one ankle. There is no longer any murmur to be heard with the heart's sounds.

20th.—Discharged, cured, and quite well in all respects.

CASE 3.—Henry G——, aged twenty-seven, a farm laborer, admitted an out-patient of the Norwich Hospital on the 4th of June, 1859. States that four months ago, he suffered from sore-throat, which he was told was diphtheria, and for which he took medicine, and had caustic applied locally. Several other persons, his neighbors, were similarly affected at the same time. In about ten weeks and just as he began to consider himself well and able to go to work, he began to feel a weakness, with numbness and tingling in his fingers and feet. This continued to get worse, gradually extending as high as the knees and elbows, for about a month, since which time it has been stationary, and it is now his only complaint. In other respects he appears to be quite well, has a good complexion, is well nourished, has a good appetite, &c.; pulse soft and weak. He states that he has suffered no privation, and knows of no cause for the present symptoms; he has taken no medicine since their accession. Ordered, liberal diet, with porter; and the combination of citrate of iron with zinc and quinine, as in the former cases.

July 17th.—Reports himself as, nearly well. Has continued to take the same medicines, and has been gradually improving ever since his admission. He states that the return of power in the arms and hands has all along been in advance of that in the lower extremities.

CASE 4.—James R——, aged sixty-three, husbandman, also a patient of the hospital, admitted, under my care, June 12th, 1858. States that he is a married man, of regular and temperate habits, and always enjoyed excellent health until January last, when he was laid up for a month with influenza. From this he speedily recovered, resumed his usual employment, and remained quite well until about two months ago, when he caught what he considered to be a bad cold. He now took a little medicine, but was not compelled to discontinue work, and in about a fortnight got quite well again. He was then seized with numbness in his hands and feet, preceded for two or three days, but not accompanied by, vague pains in the back and elsewhere (which he attributed to extreme constipation of the bowels.) Since that time, the

numbness has increased in both arms and legs, and there has also been considerable and increasing loss of power in all the limbs. He has been under medical treatment, has been bled and galvanized, and has taken mercury, without any impression having been made upon his disease. Knows of no special cause for the attack; has not suffered from gout or rheumatism, nor been exposed to the action of lead; has neither been over-worked nor starved.

*Present state.*—Complains of loss of feeling and strength in the forearms and hands, and in the feet and legs as high as the middle of the calf; at times he has slight snatching of both arms and legs; the reflex actions are nearly absent; gait stiff and trembling; has but little power of grasping with either hands; slight numbness around the mouth; is drowsy; taste slightly diminished; tongue protruded slightly to the right side; intellect unaffected; has no pain of head or elsewhere; heart's sounds weak, but free from murmur; left radial pulse stronger than right; pulse 60, soft and full; bowels extremely costive, and acted upon with difficulty; sphincters unaffected; appetite good; sleeps well; has a good color in his face, and looks well nourished; urine free from albumen, and otherwise normal. Ordered, a draught, consisting of one drachm of solution of bichloride of mercury, and one ounce of infusion of cinchona, three times a day. Also, two pills, composed of eight grains of compound extract of colocynth, and a quarter of a drop of croton oil, every night.

June 18th.—Much the same. To have full diet.

28th.—There is very little alteration since his admission. The numbness and weakness of the limbs, and the absence of reflex actions, remain as on admission; pulse still very weak; bowels obstinate. Ordered, a draught, consisting of disulphate of quinine, one grain; sulphate of zinc, one grain; sulphate of magnesia, half a drachm; dilute sulphuric acid, ten minims; water, one ounce,—to be taken three times a day.

July 2nd.—Decidedly better, pulse firmer, 72; is no longer drowsy, and has regained a little muscular power in the hands.

6th.—Walks better, and has more power of grasping with the hands; numbness of face gone, and diminished in left hand and arms; bowels still very obstinate; pulse has again fallen to 60, and is very weak. To have a pint of porter daily.

13th.—Much better; pulse fuller and stronger; numbness and weakness fast disappearing.

23rd.—Numbness, &c., all gone, except from tips of fingers and toes; he is rapidly improving in all other respects; bowels still costive. Made an out-patient, and ordered to continue his medicines.

August 18th.—Reports himself quite well, except that rarely he has a little numbness at the end of his toes; looks fat and florid and

well; bowels now act regularly without medicine. Discharged cured.

The last case I have ventured to class with the others, because although the man gave no history of sore-throat (indeed, he was not questioned about it, as at that time I had no suspicion of the possible connexion of paralysis with diphtheria), yet the symptoms he presented are so similar to those observed in the others, and are on any other supposition so anomalous and inexplicable, that, coupled with the fact that he came from the same district, where even then diphtheria was prevailing, there can, I think, be no reasonable doubt of their common origin; the chief difference being that in his case the stress of the disease fell very slightly (or not at all) upon the throat—just as is seen in many cases of scarlatina,—its efficient cause manifesting its presence in the first instance only in some slight general disturbance of the system, though at a later period producing the extensive nervous lesions above described.

On looking more closely at the details of these cases, it will be seen that certain variations or points of difference exist in all of them, but that these chiefly refer to the extent or amount of the lesion, and in a less degree to its seat. They are no greater than may be accounted for by the habits, circumstances, or temperaments of the individuals; by the condition of health previous to the attack; the dose or intensity of the poison imbibed, or the treatment which had been employed.

In all the cases, the spinal system was the one which was especially affected. In two, the fifth nerve appeared also to be involved. In only one was the sensorium proper at all implicated. In none of them could the intellect be considered to be impaired. In one case there were dilatation of pupils, pallor of countenance, and urine of low specific gravity; but these were probably due to the fact that in this case the disease attacked the patient just after his discharge from jail, where he had been subjected to the depressing influence of confinement and prison discipline, as a result of which ordinary anæmia was doubtless superadded to his other ailment. In all the other cases, pallor, &c., were absent, the complexion of the patients being fully as high as natural. All the patients were males.

The affection appeared readily to yield to nervine tonics, especially full doses of iron combined with other tonic medicines, and liberal diet.

In conclusion, I would observe that the phenomena produced by the presence of the diphtheric poison in the system appear to be separable into two distinct classes: the one referable to the throat and air-passages, and showing themselves in the irritation and familiar membranous exudation upon these parts; the other referable to some *special* chemical influence exerted upon the nervous matter, which shows itself in the first instance (*a*) by depression of this system, in common with (and probably as

the primary cause of that of) the other powers of life; (b) during the whole of the acute stage of the disease, by the relaxed and often perspiring skin, the feeble pulse, the listless and often indifferent manner, &c. &c.; (c) at a later period, by the occasional rapid and sudden sinking when the patient appears to be steadily progressing towards convalescence; (d) at a still later date, by the occurrence of various degrees of palsy even after convalescence may have been fairly established.

And in reference to the light reflected upon the nature of the disease by the results of treatment, I would say, that as all appear to be agreed that this, even in the early stages of the malady, should be tonic, and in every way such as to stimulate and support flagging nervous power, so the fact that these forms of palsy which occur during convalescence—after failing to get well with alteratives or when left to the unaided powers of nature—readily yield to the influence of the nervine tonics, such as steel, zinc, and quinine, is a further proof of what I have endeavored to illustrate: that the diphtheric poison is essentially a nerve poison, one of the effects of which—and that not the least important—is its power of destroying or preventing the evolution of nervous force.

Norwich, July, 1869.

### Medical Societies.

JULY—AUGUST.

#### ROYAL MEDICAL & CHIRURGICAL SOCIETY.

F. C. SKEY, Esq., President.

AN INQUIRY INTO THE NATURE OF THOSE CASES OF STRANGULATED OBLIQUE INGUINAL HERNIA TERMED "REDUCTION EN BLOC OU EN MASSE."

WITH SPECIAL RELATION TO THE ANATOMY OF THE ACTUAL LESION, AND PRACTICAL DEDUCTIONS DERIVED FROM AN EXAMINATION OF THE CASES.

BY JOHN BIRKETT, F.R.C.S.

Surgeon to Guy's Hospital. etc.

The term, "*réduction en bloc ou en masse*," has been given by writers on hernia to those cases in which the hernial protrusion, together with its investing sac, has been pushed into the abdomen by the efforts made to reduce it. The principle was first enunciated by Le Dran, and since then it has been generally accepted as occasionally occurring in all forms of hernia. The object of this inquiry is to ascertain,—

1st.—The applicability of the term to inguino-scrotal hernia exclusively.

2nd.—The actual nature of the lesion.

3rd.—The herniæ in which it most commonly occurs; and,

4th.—The practical inferences deducible from the cases on record.

The cases published by various surgeons are divisible into two classes:

1. Those in which the patient died without the strangulated bowel being relieved.

Those in which the constriction around the bowel was removed.

A brief history of some of the cases is given to show the advance made in the science of anatomy of the hernial sac, the causes of the impediment to the reduction of the hernia, and the way in which this accident was discovered. The lesion described in these cases are of three kinds: 1st, When the hernia is pushed out of sight, and is found after death between the peritoneum and the abdominal walls; 2nd, When the hernia is found after death in a pouch within the abdominal walls; 3rd, When the orifice of the hernial sac has been torn off.

From the facts recorded by the various writers the following conclusions are deduced:—

1. That although the hernial sac is *displaced*, it is not detached from its serotal envelope.

2. That the practicability of opening the hernial sac in the inguinal canal is good evidence that it was not pushed into the abdomen.

3. That the difficulty in bringing out the sac containing the hernia from the abdomen, when it is said to be therein, is evidence that its connections must be more firm in that region than would result from merely being pushed there.

4. That the situation of the hernia has been pointed out in some cases, although the exact nature of the lesion has not been fully described.

5. That the details of the cases are not in accordance with the presumed, or accepted, conditions of the accident.

6. That the evidence of the practicability of the patient, or a surgeon, reducing into the abdomen a *scrotal hernia*, together with the sac still strangulating its contents, is, at the present moment, equivocal.

7. And, therefore, that the term "*réduction en bloc ou en masse*" is not so applicable to these cases of oblique inguino scrotal hernia as to other species.

The author's explanation of the mechanism of the injury is next detailed, with the assistance of diagrams, and, in order to prevent any perplexity arising from the use of anatomical terms, a few definitions of the parts immediately concerned are given. The mechanism of the lesion seems, first, to consist of a dilatation of the neck of the hernial sac by the force employed to reduce the hernia, which is prevented passing into the peritoneal cavity by the contracted orifice of the sac. Secondly, to the laceration of the dilated neck of the sac, which permits the escape of its contents into the loose connective tissue between the peritoneum and internal abdominal fascia. Explanations are next offered of the manner in which the intra-abdominal pouch may sometimes be formed, although from the extreme rareness of the occurrence, the fact of this slow development is very questionable.

Part III, is devoted to an analysis of the cases recorded by numerous writers, and which the



author reduced to the form of tables. These tables accompanied the paper. The following facts are especially considered :—

1. The age of the patient when the accident happened. It may occur at any age between ten and thirty; but it has been most frequent between thirty and forty years of age.

2. The age of the patient at the time the hernia was developed. In a large proportion the hernia was developed before thirty years of age.

3. The variety of inguinal hernia. All were *oblique inguinal*, a very large majority being in the scrotum. Those cases of hernia in which the protrusion passed into the vaginal process of the peritoneum constituted a majority. The importance of this circumstance is demonstrated, and an anatomical comparison is instituted between these cases and those inguinal herniæ of slow and gradual formation.

4. The site of the testis has varied in several cases, and it is an important fact to remember.

5. The protruded viscus has been either reducible intestine only, or intestine with irreducible omentum; but, in the majority of the cases, reducible intestine; and that generally ileum formed the hernia.

6. It appears that this complication has occurred in cases of quite recent hernia, as well as in those of long standing.

7. The local means by which the hernia was pushed from the scrotum were employed in some cases by the sufferer; in others by the surgeon; and in some, whilst the patient was under those influences which are employed to diminish muscular tonicity, especially chloroform.

8. In the majority of the cases there has been a local indication that the hernia was not returned into the peritoneal cavity. In all, constitutional symptoms have clearly demonstrated the fact.

In the fourth part, the practical deductions from the foregoing facts and observations are stated. They refer, first, to the diagnosis of the case, and, secondly, to its treatment. The diagnosis may be formed from the age of the patient; the age at which the hernia was developed; the variety of the hernia; its descent into the vaginal process of the peritoneum; the site of the testis; the viscera constituting the hernia; a disposition to the recurrence of the hernia after it is supposed to be reduced; the disappearance of the hernia after the application of the taxis, accompanied by persistent constitutional indications of strangulated intestine; and local indications more or less distinctly marked. The treatment consists in immediately exploring the inguinal canal if every case in which the slightest suspicion on this accident exists; in freely exposing the internal abdominal ring; and, whilst returning the protrusion into the peritoneal cavity; in taking great care that a part of it does not glide through the laceration in the sac outside the

peritoneum. Preparations and drawings were exhibited.

Mr. Wade remarked that the great difficulty in cases of internal strangulation was the diagnosis. Although when hernia was present there might be less difficulty than without such complication, yet even then the diagnosis was not always very easy. He mentioned a case which had occurred some length of time ago, an abstract of which had been read before this Society. The patient was an old man, seventy-five years of age, who had the subject of double inguinal hernia for thirty years, which had been kept up by a double truss. The only symptom of internal strangulation in that case was stercoraceous vomiting. There was no tenderness on pressure in any part of the abdominal region, nor could anything like a deep-seated tumor be detected in the neighborhood of either of the inguinal rings. The morning before he (Mr. Wade) saw the patient, the latter, when getting out of bed, had felt a slight momentary darting pain in the right groin, since which time the bowels have not acted. As the patient on the following day was much prostrated, there had been no action of the bowels, he opened freely the abdominal ring on the right side, by a free division of the tendon of the external oblique muscle. The sac was then opened, and a small knuckle of intestine, red from congestion, was observed. The neck of the sac, much thickened, which formed the obstruction, just within reach of the finger, tightly embracing the intestine, was divided by a probe-pointed bistoury. The bowels acted on the following day, and the man slowly, but completely, recovered. It will be seen that the principal difficulty in this case was in discovering on which side the strangulation existed.

Mr. Arnott, about two years ago, had a case of "*réduction en masse*," under his care, and it appeared to him to be similar to that which Mr. Birkett had represented as an imaginary case. He was summoned by another surgeon to a patient of his, suffering from strangulated hernia, but when he arrived, it was reported to him that a short time previously reduction had been effected. There was certainly now no tumor in the left inguinal region, nor in the scrotum; but on putting his hand on the abdomen, a little above Poupart's ligament, he felt a sensation of thickening, which induced him to believe that there was something peculiar in the case, and he accordingly requested that, if the symptoms continued, he should be sent for again. In the course of five or six hours, he received a message that the symptoms were getting worse. The history of the case was this: The patient, a man of forty, at the age of five, had a hernia in the right side, for which he wore a truss; and, at the age of sixteen, another appeared on the left side, for which he never wore a truss. This occasionally came down, and he was in the habit of putting it up. During the previous night it came down, and he was unable to replace it. His

medical attendant was sent for, and attempted to reduce it, but failed. The symptoms of strangulated hernia continuing, an attempt was again made, and apparently succeeded; for, as has been stated, on the left side there was now nothing in the scrotum nor in the inguinal canal, and only a certain feeling of induration, or resistance, in the abdomen, corresponding to the internal abdominal ring. This led him (Mr. Arnott) to operate. On exposing the external abdominal ring, nothing was found in it but the cord; but on passing his finger into the inguinal canal, he felt, at some distance, something that seemed to strike against it. Clearing away a little cellular substance, he thought he might get hold of this by the forceps, and pull it down, but he failed. He then slit up the tendon of the external oblique through its whole extent, where it forms the anterior parietes of the canal, and even then it was with some difficulty that he could get at and open the sac, which was extremely tense, and from which an unusually large quantity of serum was evacuated. On passing the finger into the sac, the seat of stricture was so deep that he could scarcely reach it, and he requested Mr. Shaw, (who, with Mr. Sibley, assisted him,) to lay hold of its edges with the forceps, and try to pull it down, but without success. By drawing, however, on the strangulated loop of the bowel, the sac became partially inverted, like the finger of a glove, and the strictured part was brought into view. This was divided upon a director, and the intestine returned into the peritoneal cavity. The hernia in this case presented the circumstances which the author of this paper had supposed to be imaginary, the sac of the reduced hernia occupying the situation represented in the diagram, No. 2, (between the internal spermatic fascia and peritoneum;) not that he meant to say that the large quantity of fluid had been pushed up bodily, but that the hernia, having been reduced when it was smaller, had enlarged from the secretion of serum continuing and accumulating in the sac. The patient recovered. He (Mr. Arnott) was persuaded, that if, in every instance of "réduction en masse" it was expected that a portion of the sac would be found in the external ring, such expectation would not be realized. The subject required still further investigation.

Mr. Hulke had lately seen the post-mortem examination of a case, the exact counterpart of that which Mr. Birkett considered to be an imaginary one, where the hernia appeared to be reduced, but was in reality situated between the fascia transversalis and the peritoneum.

Mr. Moore had seen two cases, in which, after the hernia had been reduced, the sac was exceedingly tense. He did not recollect whether there was any prolongation of the sac down to the scrotum; but if, as Mr. Birkett supposed, the sac contained fluid, he could not see how it should be perfectly empty in the scrotum, and so tight within the abdominal muscles. It

would be impossible that there should be an indication of a sac before the operation in the scrotum, if it were so tense as he found it in the two cases in question.

Mr. Birkett, in reply, said in the case mentioned by Mr. Arnott, he believed that gentleman himself was not quite certain whether it was a case of scrotal hernia. He (Mr. Birkett) was led to a consideration of the subject, from the fact of one of the students of the hospital asking him to explain the circumstances attending "réduction en bloc." In endeavoring to give the explanation, the student asked, "Do you mean to say that you can detach the whole of the hernial sac from the scrotum, and press it through the inguinal canal within the abdominal walls?" That certainly rather staggered him, and he proceeded to examine the cases on record. He found that in many, the surgeons described the opening of the hernial sac in the scrotum, or in the inguinal canal, after having stated that it was pressed back into the abdomen, so that it was clear there was some discrepancy between the fact and the general statement of the case. Then there were one or two cases on record, in which the hernia was, no doubt, inguinal, and was pushed within the internal abdominal walls; but they were not cases of scrotal hernia. He then examined the precise nature of the cases in which the accident happened, and found that it occurred in by far the majority of those cases which offered the greatest amount of difficulty to the reduction of the hernial sac out of the scrotum into the abdomen. Most of the cases to be found in the paper were of the form known as congenital, or of hernia into the vaginal process of the peritoneum, in which, if the hernial sac had been returned into the abdomen, the testicle and all must have been pressed back. He believed Mr. Arnott's case to be one of hernia into the vaginal process of the peritoneum; and supposing it to have descended into the scrotum, of which Mr. Arnott was not certain, it would be difficult to detach the hernial sac from its scrotal connection, and push it through the abdominal ring into the abdomen. He had, in the paper, entered at length into the subject of diagnosis, and had drawn especial attention to the fact of not depending upon the total want of all local indication of hernia; for in the large majority of cases recorded there were marked indications of its existence, more or less fulness in the inguinal canal, thickening about the internal abdominal ring, pain on pressure, and the like.

#### ON THE TREATMENT OF EMPYEMA BY "DRAINAGE," ILLUSTRATED BY TWO CASES.

BY S. J. GOODFELLOW M. D.,

Physician to the Middlesex Hospital, and Lecturer on Medicine.

Followed by

#### SOME REMARKS ON THE TREATMENT BY DRAINAGE GENERALLY.

BY C. DE MORGAN, ESQ.,  
Surgeon to the Hospital.

The object of this communication was to show

the advantage to be derived, in many if not in all, cases of empyema, of making two openings in the operation of paracentesis thoracis, and of establishing a free communication between them, and between the cavity of the pleura and the external air, by means of an indian-rubber tube, perforated at frequent intervals in the way recommended by Chassaignac for the healing of sinuses. The marked success attending the adoption of this plan of treatment in the two cases read to the Society seemed to afford strong evidence of its value.

The first case was that of a boy, aged seventeen years, who had been suffering for upwards of five years from an opening in the right side of the chest, which communicated directly with the pleural cavity, and for a great part of this long period, also with a cavity in the lung, the result of an abscess. The history of the case, as described in the paper, showed that at the age of twelve years this boy had an attack of pneumonia after measles, which terminated in abscess; that in a short time this abscess burst into the cavity of the pleura; and that ultimately a spontaneous opening occurred in the chest wall, through which a great quantity of pus, of a very offensive character, continued to be discharged for the five years preceding the adoption of the operation above recommended. During the whole of this period the boy had been for the most part confined to bed; and notwithstanding the treatment that had been adopted at home and in a public hospital, but little improvement took place in his general health, and no progress whatever was made towards the healing of the disease in the chest. The counter-opening was made and Chassaignac's tube inserted on the 5th of January last. In a few days a marked change for the better was observed: the discharge from the opening, instead of being thin, unhealthy, and intolerably stinking, was thick, much reduced in quantity, and nearly free from odor; his general health rapidly improved; the œdema of the legs, with which he had been affected for some years, quickly diminished; and he was able to sit up for several hours every day. In three months after the operation he was dismissed from the hospital. He was then able to walk a considerable distance without difficulty, and has since been doing well.

The next case was that of a man, aged twenty-four years, who for nearly three years had suffered from tubercular disease of the left lung, followed by pneumothorax and empyema. There was every reason to believe that the empyema had been present for more than a year, and that a considerable quantity of fluid was in the pleural cavity. The greatest impulse of the heart was felt about two inches below, and an inch to the external aspect of, the right nipple. The first opening was made by Mr. de Morgan, on the 21st of January, between the fifth and sixth ribs; and the sero-purulent matter was allowed gradually to drain away by partly plugging the

canula. In twenty-four hours, upwards of eight quarts had escaped, the opening still freely discharging. Four days after, a second opening was made, and the perforated tube introduced. But it was found, after about ten days, that the counter-opening had not been made sufficiently low down in the chest cavity, for the pus remained so long as to become decomposed. A second counter-opening was made as low down as possible; after which the discharge soon lost its offensive odor, quickly diminished in quantity, and the general health so rapidly improved that he was able to get up in a few days; and, on the 5th of April, he was able to return to his home. Since his discharge he has continued to improve in health and strength, and is now (June 16th) able to perform a day's work at an easy occupation.

The benefit to be derived from the plan of "drainage," by means of Chassaignac's tube, is obvious. The openings in the chest wall are always free; the matter is discharged drop by drop as it forms, so that if the tube be suitably placed, there is never any collection whatever of pus in the thorax; no time is given for decomposition; and the pus is, therefore, discharged in a healthy and pure state. The evils arising where only one opening has been made need not be pointed out. They are sufficiently manifest in the two cases described in the paper.

The operation is a very simple one. A puncture with a trocar, or a simple incision, may be made into the cavity of the chest at the usual place—between the fifth and sixth, or sixth and seventh ribs—or, indeed in any convenient situation. A firm long iron probe, somewhat bent, is then passed through the opening, and directed towards the lower and back part of the cavity—the lower the better. If the end of the probe be made to press against the side of the thoracic walls, it can be felt from the outside through the intercostal spaces, though, perhaps, obscurely, owing to the thickness and toughness of the false membrane within. The lowest and most appropriate site in which the probe can be felt having been selected, an incision is made upon the end of the probe, which is then brought through the opening thus made. A strong piece of silk thread is passed into the eye of the probe, and drawn through the two openings, and the drainage tube, being firmly tied to one end, is then drawn through by means of the silk; the ends of the tube are tied together, and the operation is completed.

The plan of treatment by "drainage," first adopted by Chassaignac, has been largely and beneficially put in practice at the Middlesex Hospital with deep-seated and extensive collections of matter. The operation consists in passing through the abscess a fine india-rubber tube, perforated at small intervals; the ends of the tube, which project from the opposite sides of the abscess, are then tied together, and the matter is allowed to drain away, and to discharge itself through the perforations made in the tube.

## OBSERVATIONS ON THE MEDICAL ADMINISTRATION OF OZONIZED OILS.

BY THEOPH. THOMPSON, M.D., F.R.S.,  
Physician to the Hospital for Consumption, etc.

THE author, after some general remarks on the properties of ozone, describes the results obtained from its administration in association with oils; the oils being ozonized by exposure for a considerable time to the direct rays of the sun, after previous saturation with oxygen gas, according to the process adopted by Mr. Dugald Campbell. The cases of fourteen consumptive patients to whom the ozonized oils were given are detailed; and the principal facts noted are also appended in a tabular form. The conclusion to which these experiments point is, that the administration of ozonized oils has a remarkable tendency to reduce the frequency of the pulse. Of the fourteen patients whose cases are detailed in this communication, there are only two in whom no such effect was observed: and although in a few instances the effect may have seemed insignificant or transient, in the larger proportion it was very considerable, and must be attributed to the ozone rather than to the oil, since it was repeatedly manifested in patients who had taken cod-liver and other oils without any reduction, or even with an acceleration of the pulse; and further, the effect on the pulse was nearly as distinct when the ozone was associated with the oil of the cocoa-nut, or of the sunflower, as with that of the cod-liver. This circumstance is the more significant, since the administration of sunflower oil without ozone has not appeared to the author to manifest any important remedial power. The reduction of pulse was usually observed in two or three days, and often continued progressive. A reduction of twenty beats was observed in certain cases to occur respectively in two, three, four, and six days; in other instances a reduction was noted of twenty-four pulsations in fourteen days, thirty-four in thirteen, thirty-six in twenty-two, forty in eleven. In one patient the pulse fell as low as 60—probably considerably below the natural standard; but in most of the favorable instances the reduction stopped when that standard was obtained.

The apparent effect of the remedy is one which, prior to experiment, the author would not have anticipated. No other obvious result was noticed, excepting a general improvement in the patient's condition. In some of the patients the use of simple and ozonized oils was alternated. In one case the alternation was made three times, and the result was in each interchange of treatment so direct and remarkable as to make that particular example equivalent in force to three experiments.

In addition to the patients under his own observation, the author refers to four instances noted by Dr. Scott Alison, who obligingly pursued the investigation during Dr. Thompson's absence from the hospital. In these four cases

the disease was in the third stage. In two, a remarkable reduction in the rapidity of the pulse, amounting to about twenty beats, occurred under the use of the ozonized oil, while the improvement induced could not be referred to any other cause. Dr. Alison remarks, "I attach some value to this observation; for I prescribed the oil totally divested of all prejudice in its favor, and I have always been reluctant on imperfect grounds to refer results the operation of medicines. If ozonized oil can reduce the rapidity of the circulation—a feature of great prominence in phthisis,—this remedy possesses a most valuable property, rendered still more valuable by its contributing at the same time to improve the general health."

The author mentions having used ozonized oil of turpentine with marked and prompt advantage in some cases of hæmoptysis, but has not sufficiently repeated the experiment to feel entitled to express an opinion as to its remedial superiority over ordinary turpentine. He adds that, should more extended observation establish for ozonized oil the property indicated by these experiments, it will prove a valuable addition to our list of remedies, especially in consumption (which is a disease peculiarly characterized by hurried action); but not, perhaps, exclusively in this disorder, since there are other morbid conditions in the treatment of which it is very important to lower the pulse without reducing constitutional strength.

## ON A CASE OF PARALYSIS,

AS TO VOLUNTARY MOTOR POWER, OF ONE-HALF OF THE BODY, ATTENDED BY CONTRACTILE HYPERÆSTHESIA ON THE CORRESPONDING SIDE OF THE FACE, AS THE RESULT OF COMPRESSION OF CERTAIN LATERAL PARTS OF THE BRAIN FROM AN INTRA-CRANIAL ANEURISM; WITH OBSERVATIONS UPON "INDUCED" PARALYSIS.

BY JOHN W. COLE, M.D.

In this communication, after prefatory allusions to the general subject of the production of motor paralysis from injury or disease of the corresponding side of the brain, in contradistinction to a crossed paralysis from an affection of the opposite side of the brain, the author goes on to relate a case of aneurism of the left anterior cerebellar artery, so placed as directly to press upon the anterior surface of the middle crus cerebelli on the left side, and implicating, although to a very slight degree, the superficial part of the neighboring pons Varolii, &c. The apparent root of the fifth cranial nerve, on the same side, was also pressed upon by the aneurism; and the seventh nerve, in its forward course towards its exit from the cranium, was greatly pressed upon. The other cranial nerves, excepting the optic nerves, were unaffected.

The specimen was removed from the body of a middle-aged woman, who had been an epileptic, and had lost her sight for five years. She also suffered from partial loss of muscular power on the left side of the body, and contractile

hyperæsthesia of the skin of the left side of the face and head; and impairment of the senses of smell, taste, and hearing on the left side.

The chief point of interest in the case was the existence of paralysis, more or less incomplete, of the muscles of the limbs on the side of the body corresponding with the cerebral pressure; but besides affording an illustration of the existence of such an anomalous form of hemiplegia, the case is exceedingly interesting as being an instance in evidence of the statement lately established by Dr. Brown-Séquard, that when pressure is made on the anterior surface of one of the crura cerebelli, without materially injuring neighboring structures, the paralysis produced, (if any be caused) will be almost invariably of the muscles on the *corresponding* side of the body.

Dr. Ogle points out at length the coincidence, in his case, between the interference with the sensibility of the skin, the power of the moving muscles of the jaw, and the sense of taste, on the one hand, and the pressure upon the fifth cranial nerve, on the other; and again, between the deafness and facial paralysis, and the injury to the seventh pair of nerves.

The author considers, to some extent, the probable causation of the paralysis existing on the same side of the body as the cerebral lesion—a form which Brown-Séquard looks upon as being owing, not to any absence of action, but to some kind of irritation, or “excess of action,” reflected, as he states, to some central or conducting part of the nervous system from the particular part primarily affected. Dr. Ogle, whilst recognising this method of explanation, ventured to suggest the term “induced” paralysis as being one more clearly conveying the meaning intended to be given by the word, and as being less likely to be misunderstood than the expressions “sympathetic” or “reflected” paralysis, which Dr. Brown-Séquard had applied to this form of paralysis.

#### ON THE ADMINISTRATION OF BELLADONNA, AND ON CERTAIN CAUSES WHICH MODIFY ITS ACTION.

BY HENRY WILLIAM FULLER, M.D. CANTAB, F.R.C.P.L.,  
Physician to St. George's Hospital.

The author was led to the inquiries which form the subject of this paper by observing the remarkable tolerance of belladonna exhibited by a child, a patient in St. George's Hospital to whom he was administering it as a remedy for chorea. Fancying that the tolerance of the drug observed in the case in question might be attributable either to imperfection of the extract or to the modifying influence of the choreic spasms, he obtained other extract of belladonna from Apothecaries' Hall, from Squire's, and from Jacob Bell's, in Oxford-street, and administered it, dissolved in water, to ten other choreic patients in the hospital. In a twelfth case he administered atropine, obtained from Morson's, in Southampton-row. The result was in all cases the same—namely, extraordinary tolerance

of the remedy, with a varying, but not very satisfactory, effect as regards the subjugation of the choreic spasm—the tolerance of the drug being so great that one girl, aged ten, took seventy grains of the extract of belladonna daily, and a total amount of 1019 grains, or rather more than two ounces, in twenty-six days; whilst the child, aged fourteen, to whom the atropine was administered, took no less than thirty-seven grains in eighteen days.

1. The patients were all pale whilst taking the larger doses of the drug; and, in no instance, was there any feverish heat, or any rash or erythematous blush on the skin.

2. There was great weakness of the pulse in all the cases, and, in some, considerable quickness.

3. The urine was generally clear and acid, but scanty, and of high specific gravity, varying from 1024 to 1036. In three cases it frequently contained a copious deposit of crystallized lithic acid; and, in three other cases, it was usually loaded with lithates. In one case, for the space of a few hours, whilst the patient was under the toxic influence of the drug, it became ammoniacal almost as soon as voided.

4. In one case some difficulty was experienced in voiding the urine; but this was not observed in any other case. This difficulty passed off when the belladonna was omitted.

5. The tongue was always moist, but unusually red whilst the larger doses of belladonna were being taken, and the redness passed off when the drug was omitted.

6. The remedy did not, in any instance, exert a constipating effect; on the contrary, it appeared to prove aperient. An occasional purge was required only in three cases.

7. In five cases it ultimately gave rise to sickness and diarrhœa; but in every instance, save one, the choreic spasms had almost wholly ceased, and, in the exceptional case alluded to, had greatly subsided before those symptoms were produced. Whenever bowel symptoms occurred, mere omission of the medicine sufficed to cause their cessation. Did the existence of spasm counteract the influence of the drug, and prevent their occurrence?

8. Dilatation of the pupils was very uncertain. In almost every instance the pupils were large before the administration of the medicine was commenced, and they invariably became dilated soon after a dose of the medicine was taken. The dilatation, however, was not to the degree observed when a solution of belladonna is dropped into the eye, and, in most of the cases, it passed off before another dose of the medicine was due. Its ordinary duration was about two hours and a half. In one case, excessive dilatation occurred for a few hours coincidently with the occurrence of sickness and purging. In two cases considerable dilatation was pretty constant; in one case it was seldom great.

9. In two instances only did the slightest indistinctness of vision occur. In one of these it

was observed only on three occasions, and then only to a slight degree, and was not accompanied by dryness of the throat, headache, or any impairment of the mental faculties; in the other, it took place more frequently, and, strange to say, was most complained of when the pupils were of their natural size, and were contracting freely under the stimulus of light. It was not attended by delirium, nor by any indication of the action of belladonna, and the administration of an additional quantity of the drug was almost invariably followed by its removal.

10. The drug did not, in any case, produce the slightest narcotic effect; and, in one case, it failed utterly as an anodyne.

11. In no instance was there any evidence of its accumulation in the system.

12. The tolerance of the drug was not in proportion to the severity of the choreic spasms. In Case 2, in which fourteen grains of the extract, daily, occasioned sickness and purging, the spasms were more severe than in Case 11, in which seventy grains were taken daily without disturbance of the stomach and bowels.

13. The curative effect of the drug was very uncertain. In seven cases its action appeared to be decidedly curative, but in two cases it failed to exercise the slightest control over the spasms; and in the other three cases, it is doubtful whether the improvement ought to be attributed to its action.

Being desirous of ascertaining whether the tolerance of the drug was due to its decomposition in the stomach, or to its non-absorption, the author submitted to Dr. Marcet and Mr. Kesteven for examination some of the urine voided by a patient in Roseberry ward, who at the time was taking sixty-four grains of the extract of belladonna daily. The former extracted atropine enough from three ounces of the urine to kill two white mice, and narcotize several others. The latter, from two ounces of the urine, obtained sufficient to produce dilatation of a cat's eye, to afford the beautiful filamentous crystals of atropine now laid before the Society, and to give the reactions which atropine yields with iodine water, tannic acid, chloride of gold and sulphuric acid, and bichromate of potash. The fæces also, on being analyzed by Dr. Marcet, yielded abundance of atropine.

Thus then, up to this point five facts appeared proved;—

1st. That in cases of chorea extraordinarily large doses of belladonna and atropine are tolerated.

2nd. That the drug is absorbed into the blood, and therefore that the tolerance of it is not attributable to its non-absorption, nor to its being decomposed in the stomach.

3rd. That it does not accumulate in the blood, but passes out of the system with the urine and fæces, and probably with the other excretions.

4th. That it does not exercise that amount of control over the choreic spasms which would

have been expected from the readiness with which it is tolerated by the system.

5th. That the tolerance of the remedy is not in proportion to the severity of the choreic symptoms.

The question, therefore, arose as to whether the existence of chorea had any part in producing tolerance of the drug, or whether that tolerance may not have been due to some other circumstances? With the view of determining this point, the author administered the extract of belladonna to two convalescent children, whom he kept in the hospital for the purpose. To one aged seven, he ultimately gave thirteen grains of the extract daily, and to the other, aged ten, twenty-eight grains daily, without producing dryness of the tongue or fauces, or any symptom indicative of the action of belladonna beyond some temporary dilatation of the pupils.

With the view of having the matter tested on a larger scale than is possible at St. George's Hospital, the author requested a friend who is attached to a large public institution for children to administer it cautiously in gradually increasing doses. Accordingly to eleven children, varying in age from three to six, one-eighth of a grain of the extract in solution was administered three times a day, and the dose was increased in the course of six days to half a grain thrice daily. To four other children, from eight to twelve years of age, a quarter of a grain of the extract was given, and the dose was increased in the course of six days up to one grain three times daily. These children were all in good health; the dose was gradually increased, and dilatation of the pupil was the only effect produced. To seven other children, between five and seven years of age, he began by giving one-third of a grain twice a day, and continued it for three days without perceiving any effect from its administration beyond slight dilatation of the pupil. He then prescribed two-thirds of a grain twice a day; but by mistake one grain and a third were given at a dose. The result of this large and sudden increase was that the children were all seized with sickness and vomiting; some of them had diarrhoea, and one of them had the violent uncontrollable delirium characteristic of belladonna. Stimulants were at once administered, the belladonna was omitted, and on the following day the toxic effects of the drug had passed off, and the children were perfectly well.

To adults the author administered the drug in pills and in solution, and he found that, however given, very small doses usually produce dryness of the tongue and fauces; that two grains daily will often excite vertigo and dizziness, and that it is not possible to establish a tolerance of the larger doses as in children.

He was thus led to the conclusion that—

1st.—The tolerance of belladonna is not attributable to the counteracting influence of

choeric spasms, but is in some way connected with the age of the patient.

2ndly.—That a much larger dose than is usually prescribed is well borne from the first by children of tender years.

3rdly.—That in children, though not so in adults, a tolerance of the remedy is speedily established, so that the dose may be safely increased, rapidly, but gradually.

4thly.—That especial care should be taken in apportioning the dose to the age of the patient and in not increasing the dose too rapidly, inasmuch as the usual toxic effects of the drug will be produced if too large a dose be given before a sufficient tolerance of the drug has been established.

5thly.—That the milder toxic effects produced by the drug are of little importance, and subside without remedies as soon as the administration of the medicine is discontinued.

6thly.—That adults cannot tolerate the doses of the drug which can be taken with impunity by children.

The extraordinary difference in the tolerance of the drug observed at different periods of life, the author remarks, may be explicable by the medicine passing off with the urine, as also, probably, with the other excretions, more rapidly in childhood than in adult life; and he concludes his paper by the following suggestions.

1st.—That inasmuch as belladonna is admitted to be productive of signal benefit in whooping-cough, even in the minute doses in which it has been hitherto administered, it is probable that a corresponding increase of benefit would result from the larger doses, which it is now proved may be safely prescribed under certain restrictions.

2ndly.—That it deserves a trial in epilepsy, laryngismus stridulus, and other spasmodic affections.

3rdly.—That combining as it does antispasmodic, sedative, and slightly purgative properties, it may be productive of relief in certain cases of dyspepsia connected with infra-mammary pain, flatus and spasms in the abdomen.

4thly.—That inasmuch as it exercises a remarkable power in controlling spermatorrhœa and incontinence of urine, and the experiments recorded in this paper prove that it is excreted with the urine, it is highly probable that its curative action in such cases may be due in great measure to its topical effect, and if so, that it might be applied locally with advantage.

ON THE REPARATIVE PROCESS IN HUMAN TENDONS AFTER SUBCUTANEOUS DIVISION FOR THE CURE OF DEFORMITIES.

ILLUSTRATED BY A SERIES OF SPECIMENS AND DRAWINGS FROM FIFTEEN POST-MORTEM EXAMINATIONS.

BY W. ADAMS, ESQ., F.R.C.S.

Specimens of reunited tendons after division were exhibited from ten cases, and also drawings, made by Ford, of the recent appearances in thirteen cases, at periods between four days

and three years after the operations. These specimens had been collected by Mr. Adams during the last eight years, and were principally from patients operated upon at the Royal Orthopædic Hospital; but for two specimens he was indebted to Mr. Erichsen and Mr. Curling.

After alluding to our at present scanty information on this subject, and describing the recent appearances in fifteen cases, the author gave a general summary of the reparative process, describing—

1st. The immediate results of the operation.

2ndly. The commencement and nature of the reparative process.

3rdly. The general appearance and structure of the newly-formed connective tissue, or new tendon. And

4thly. The junction of the new with the old tendon.

This was followed by an account of the circumstances which may interfere with the perfection of the reparative process, or entirely prevent it, so that non-union of the divided tendon may result. Complete failure of union had been witnessed by the author only in the posterior tibial tendon, but it appeared that there is considerable risk of such an occurrence whenever tendons are divided in or near to dense tubular sheaths. It was shown that imperfect union might result either from some constitutional defect in the reparative powers of the patient, or from injudicious after-treatment in a variety of ways, but principally from too early and too rapid mechanical extension. The conclusions which the author considered to be established by the above series of cases were arranged under nine different heads. It was stated that tendon is one of the few structures of the body capable of reproduction or regeneration, and that the newly-formed tissue acquires within a few months of its formation the structural characters of the old tendon so perfectly, as that, under the microscope, it is with difficulty distinguishable from it; but it does not acquire through its substance the uniformly opaque, pearly lustre of old tendon; in the mass it retains a greyish translucent appearance, so that the recent section affords an easy method of distinguishing the new from the old tendon. The greatest length of perfectly formed new tendon which the author had seen was two inches and a quarter, and this was in the tendo-Achillis of an adult, a year and a half after it had been divided by Mr. Curling.

That the process by which new tendon is formed is essentially similar in animals and in man; that the perfection of the reparative process is in direct proportion to the absence of extravasated blood and inflammatory exudation; and that the sheath of the tendons, when consisting of bone-textured areolar tissue, as in the tendo-Achillis and other tendons surrounded by soft tissues, is of importance—

1st. In preserving a connexion between the divided extremities of the tendon.



2ndly. In furnishing the matrix in which the nucleated blastematos, or proper reparative material, is effused.

3rdly. In giving definition and form to the newly-developed tendinous tissue.

That the new tendon always remains as a permanent tissue, and as an integral portion of the tendon, the divided extremities of which it has been formed to reunite. In the specimen exhibited, in which Mr. Adams had divided the tendo-Achillis three years previous to death, an inch and a quarter of new tendon was clearly traceable. The average length of new tendon formed in children to reunite the divided extremities of the tendo-Achillis, Mr. Adams considers to be from half an inch to an inch, and in adults from one to two inches.

The author considered the facts adduced in this paper were amply sufficient to disprove the *linear-cicatrix theory*—the theory at present in vogue, and supported by all his colleagues—which assumes that the newly-formed tendinous structure has a disposition to undergo a process of gradual contraction, such as we see taking place in the cicatrices of the skin after burns, to which it has been compared, and that ultimately it becomes absorbed, the muscular structure at the same time becoming elongated by the force of the contraction of the cicatrix so as to allow of the re-approximation of the ends of the divided tendon, and the formation of a *linear-cicatrix*.

From the present observations it appeared that in the cure of deformities, muscles are elongated by the increased length of their tendons, obtained by means of subcutaneous division, and the development of new tendon formed for the purpose of reuniting the divided extremities of the old tendon. The mechanical and physiological effects of this increased length of the tendons were described; and lastly, the author stated that when recontraction of the foot takes place, and the deformity returns at a distant period after tenotomy, this does not depend upon absorption of the new material, or new tendinous tissue formed previously to unite the divided extremities of the old tendon, but upon structural alterations taking place in the muscular tissue. In three cases of relaxed deformity of the foot examined by the author, the new tendinous tissue formed after the previous operations remained, and could be easily distinguished from the old tendon. These facts are regarded as additional evidence against the *linear-cicatrix theory*.

#### ON DIFFERENT FORMS OF SYPHILITIC INOCULATION.

By HENRY LEE, Esq., F.R.C.S.,

Surgeon to King's College Hospital, and Surgeon to the Lock Hospital.

The object of this paper was to show that primary syphilis does not always commence in the same way. The "specific pustule," in which all syphilitic diseases were formerly said to originate, is produced by one kind of syphilitic

inoculation only, and that form is one which does not give rise to constitutional or secondary symptoms. As nearly all the experiments on syphilization had been performed so as to produce this pustular variety of the disease, it follows that no fresh constitutional syphilitic disease can be engendered by syphilization so practiced. The kind of syphilitic sore which infects the system commences in a different way, and when not artificially irritated, it gives rise rather to the adhesive than to the suppurative form of inflammation. This form of disease Mr. Lee had shown, in 1856, to be, as a rule, not inoculable upon the person who had it. This view had more recently been confirmed by the researches of French surgeons. But although not ordinarily inoculable like the suppurating form of the disease, yet it is capable of being rendered inoculable by artificial irritation. The results of the inoculation were, however, then uncertain in their results, producing little local irritation, and capable of being transmitted by successive inoculations a very limited number of times. These observations applied only to inoculations performed upon individuals who had at the time, or had previously had, infecting sores. The author described one kind of suppurating sore which was surrounded by induration which could not always be distinguished from the induration of the infecting sore. The induration could not, therefore, always be taken as the diagnostic mark of a sore which would infect the patient's system. The character of the secretion, however, gave the information which the induration did not always give. If care were taken to prevent any accidental cause of irritation, the secretion from an infecting sore would soon cease to be purulent, whereas, in the suppurating sore surrounded by induration (the phlegmonoid variety of suppurating sore) the secretion would continue, as in other forms of suppurating sores, puriform to the last. The number of cases of indurated sores which had been said to have been inoculated by Dr. Sperino and others, led to the conclusion that the two forms of disease now described had not been distinguished from each other. It was now ascertained that the infecting sore could not, as a rule, be inoculated upon the patient having it, whereas the phlegmonoid variety of the suppurating sore was of all kinds the most readily inoculated. When inoculated artificially, it produced a pustule containing well-formed pus within forty-eight hours, and it was occasionally followed by an eruption of a brick red color, confined to one part of the body, disappearing spontaneously, and not recurring. This eruption was, therefore, certainly not syphilitic.

The various points of the paper were illustrated by experiments, drawings, and tables of cases.

MEDICAL SOCIETY OF LONDON.

Mr. HILTON, F.R.S., President.

Dr. George Johnson read a paper

ON THE DIAGNOSTIC CHARACTERS OF THE URINE IN THE VARIOUS FORMS AND STAGES OF BRIGHT'S DISEASE OF THE KIDNEY.

The author commenced by observing that considerable value must attach to any means by which the practitioner may be enabled, during the lifetime of the patient, to distinguish, with an approach to certainty, between the various forms and stages of Bright's disease of the kidney. The object of this communication was to show that, in most instances, this desirable distinction may be made by a careful examination of the urine, and that in making this examination the microscope affords most important aid. In many instances, doubtless, we may, from a consideration of the general symptoms, together with the physical and chemical characters of the urine, form a tolerably correct estimate of the form and stage of the renal disease without the help of the microscope. For instance, in cases of acute "desquamative nephritis" with dropsy, the urine, which is scanty and highly coagulable has a characteristic dark, smoky appearance, from the admixture with the blood. In cases of chronic enlarged Bright's kidney (waxy or fatty) the urine often has its natural sherry color; it is scanty, and deposits little sediment; its density is rather above than below the normal standard; albumen is constantly and copiously present, and dropsy is a frequent symptom. While, in cases of contracted Bright's kidney, the urine is copious, pale, of low density, usually, but not constantly, albuminous, and dropsy, in the majority of cases, is absent. In many cases of Bright's disease, however, it is by no means easy to form a correct opinion as to the form and stage and probable result of the malady, and we gladly avail ourselves of any help which promises to lessen the difficulty. The practical questions which arise in connection with cases of Bright's disease, are chiefly these:—

1st. Is the disease acute, of recent origin, and, therefore, probably curable?

2nd. Is it chronic, of long standing, and, therefore probably irremediable?

3d. This second question being answered in the affirmative, we next have to inquire whether the danger is imminent, or whether it is probable that the patient's life may be prolonged for months or even for years.

Dr. Johnson referred to some cases of Bright's disease, of very long duration, occurring in his own practice. One medical man, still engaged in active practice, has had albuminous urine certainly for eighteen years, and probably for twenty-three years. One case, which at length terminated fatally, was under the author's observation for ten years; and several patients now living are known to have had

one or other of the forms of Bright's disease for periods varying from one to five or eight years. Before speaking of the microscope as an aid to diagnosis and prognosis, Dr. Johnson referred to a diagram representing the minute structure of the kidney as elucidated by Mr. Bowman. The most important morbid changes occur in the cortex of the kidney, and chiefly affect the gland cells which line the convoluted tubes. The peculiar arrangement of the bloodvessels of the kidney, especially that of the Malpighian capillaries within the dilated ends of the uriniferous tubes, favors the escape of albuminous and fibrinous effusion from these vessels into the tubes; hence two of the most important signs of Bright's disease—namely, an albuminous condition of the urine, which renders it coagulable by heat and nitric acid, and the presence of fibrinous moulds of the tubes which differ in character according to the form and stage of the disease. For the examination of these tube-casts the microscope is necessary. In cases of acute Bright's disease, the urine frequently contains blood; whereas in chronic cases, hæmaturia is of rare occurrence. The explanation of the latter fact is to be found in the remarkable thickening of the Malpighian capillaries which occurs in all the forms of chronic Bright's disease, and which renders these vessels little liable to rupture.\*

*Microscopic characters of the urine in acute Bright's disease.*—In the most common form of acute Bright's disease—"acute desquamative disease"—the tube-casts contain entire cells of renal epithelium and blood corpuscles, many of the same cells and corpuscles being scattered over the field of the microscope. The broad pavement epithelium from the vagina is not to be mistaken for renal gland cells. In other cases of acute Bright's disease, the tube-casts entangle pus cells in place of epithelium, or a few epithelial casts may be mingled with the pus casts. These cases are nearly as frequent as those of acute desquamative disease, and, in most instances, the patients completely recover. In a third class of cases, the tube-casts are small, transparent, and wax-like, and contain neither epithelial nor pus cells. When a sediment has this character, it is sometimes difficult to determine whether the exact disease is acute or chronic.

*Microscopic characters of the urine in cases of chronic Bright's disease.*—Cases of chronic Bright's disease may be divided into those in which the kidney is enlarged and those in which the kidney is contracted. The large Bright's kidneys are either simply pale, anæmic, and waxy, or they have the characteristic yellow fat granulations in their cortical portion. The urine secreted by the simply enlarged and waxy kidney is always copiously albuminous, but it often deposits very few tube-casts which

\* See Dr. Johnson's paper, "On the Pathology of the Renal Bloodvessels in Bright's Disease."—*Medico-Chirurgical Transactions*, vol. xxx iii., p. 107.

have the character of small wax-like casts; their small diameter proving that they have been moulded within the free canal or "lumen" of tubes, which still retain their epithelial lining. When the kidney has undergone fatty degeneration, the tube-casts entangle oil, partly enclosed in altered epithelial cells and partly in the form of scattered globules. In cases of contracted Bright's kidney, the urine may be free from albumen both in the early and in the advanced stages of the disease. The microscope is of especial value in the diagnosis of this form of disease, for the granular casts composed of disintegrated epithelium are often present when albumen is absent, and the amount of segment, composed of broken-down renal cells, affords an index of the rate at which the disease is progressing; while in the advanced stages of the disorder, when many of the tubes have been entirely denuded of epithelium, the characteristic large waxy casts, having a diameter equal to that of the kidney tubes themselves, are mixed with the granular casts. The author remarked, that a dense white sediment, composed of granular and large waxy casts, indicating, as it does, that the secreting tissues of the kidney are undergoing rapid destruction, affords more certain evidence of immense peril to the patient than almost any other form of sediment.

The paper was illustrated by drawings and diagrams, and also by numerous preserved microscopic specimens of tube-casts from the urine of patients in various stages of Bright's disease. Some of these specimens, illustrating the progress of the disease at different periods of the same case, are more than usually interesting and instructive.

The President inquired whether in the opinion of the author, the Malpighian bodies were the exclusive source of hæmorrhage in hæmaturia, or whether it might not take place in certain cases from the capillaries of the kidney?

Mr. Henry Lee thought the question of the President very pertinent, and his opinion highly probable. He had been led to think that the fibrinous casts sometimes seen in the urine were not always formed in the kidney, but were due to fibrinous matter being conveyed to the organ from distant parts of the circulation; and he would be glad to know what the author's experience was on the subject.

Dr. Camps felt some doubt as to whether persons could enjoy health for many years whilst passing albuminous urine. He thought that the author assumed too much in supposing that such evidence could have been adduced prior to the cases referred to coming under his observation. As to epilepsy in connection with uræmia, he conceived that some other explanation must be sought for; the latter being permanent, whilst the former was paroxysmal.

Dr. Greenhalgh inquired whether, in the experience of the author, albuminuria attended or followed measles. He put the question because in two cases of the disease albuminuria and

dropsy had supervened. He referred to a case of scarlatinal dropsy, in which the urine was highly charged with albumen at mid-day after a full meal, and almost free from it morning and evening; and to another, in which epilepsy co-existed with albuminuria, and was followed by symptoms of delirium tremens.

Dr. Owen Rees differed from the author as to the value of the microscope in the investigation of urinary disease, and thought it insignificant in comparison with the history of cases, and the general examination of the urine. He doubted the accuracy of the minute anatomy of the kidney, as quoted from Mr. Bowman by the author, and thought that the several forms of tubular casts shown originated in some more general cause than that assigned by the latter. In some respects we had advanced but little in the knowledge of Bright's disease beyond that attained by its discoverer; but we were at least better informed as to its prognosis. He referred to a case in which it had existed for upwards of twenty years, and in which the patient only suffered from occasional attacks of headache and ill health. He was not aware that pus cells were found in the urine of these cases. The author thought that they were difficult of diagnosis when few, and confusing to diagnosis when abundant. He regretted that more had not been said as to the therapeutics of the disease, for there was little use in multiplying facts if they did not enable us to treat it better. He objected to the division of the disease into acute and chronic; for in many cases its progress was insidious, and when acute symptoms occurred, and the patient died of epilepsy or coma, it often happened that not acute but chronic disease of the kidneys was found. In reply to a question by Dr. Camps, he (Dr. Rees) stated that albuminuria could not be so readily produced by certain articles of diet as was supposed, although when present it might be aggravated by such causes. With regard to the inquiries of Dr. Greenhalgh, he (Dr. Rees) had not observed albuminuria in connection with measles.

Mr. de Méric inquired whether, when albuminuria occurred after scarlatina, and was cured, the patient was more liable to have a recurrence of the disease than one who had not previously had it? The answer to this question would bear importantly upon the after management of these cases.

Dr. O'Connor agreed with Dr. Rees as to the comparatively little value of the microscope in the elucidation of urinary disease. He was also of opinion that albuminuria might exist for a lengthened period without danger to life, as in the instance of a case related. With regard to the cases of measles referred to by Dr. Greenhalgh, he (Dr. O'Connor) was of opinion that they were really cases of scarlet fever—an opinion which was confirmed by the occurrence of otorrhœa and enlargement of the cervical glands.

Dr. Johnson in replying to the several ques-

tions which had been put to him, said that with respect to the value of the microscope as an aid in the diagnosis and prognosis of the various forms and stages of Bright's disease, Dr. Owen Rees and himself must agree to differ. With regard to the minute structure of the kidney, as described by Dr. Bowman, there was no difference of opinion amongst anatomists upon any but the most trivial points. He was surprised to learn that Dr. Rees doubted that pus cells were frequently found in the urine, either free or entangled in the casts, in cases of acute Bright's disease. The frequent occurrence of such a sediment was a point so easy of demonstration that it was scarcely worth while to make it a subject of discussion. He had said nothing about the treatment of Bright's disease on the present occasion, not because he considered treatment useless or unimportant, but because half an hour (to which, by the rules of the Society, the reading of the paper was limited) was too short a time for treating fully of diagnosis and prognosis. If on some future occasion he should be allowed to occupy the time of the Society by a communication on the subject of treatment, he trusted that he should not then be accused of having disregarded the important preliminary questions of diagnosis and prognosis.

# OBSTETRICAL SOCIETY OF LONDON.

DR. RIGBY, President.

## A FATAL CASE OF PUERPERAL PERITONITIS, COMPLICATED WITH CYSTIC DISEASE OF THE LEFT OVARY.

BY R. U. WEST, M. D.

The author was sent for on Friday, the 4th of March last, to see a patient who had been delivered, after an easy and rapid labor, three days previously, and who was said to be dangerously ill with inflammation. On his arrival, he found the woman suffering from distension, with excessive pain and tenderness, of the abdomen, so that percussion could not be borne; the tongue was white and slimy: pulse 140, very small, and weak; there was headache, with delirium; and the countenance was wild and expressive of pain. It is also noted that there was milk in the breasts, that the lochia were checked, and that she had had a rigor the previous day. The following prognosis was made:—"She will die next Tuesday." She was ordered a saline purgative, some calomel and opium, with fomentations, &c.; and, subsequently, ammonia and wine. On Monday evening, March 7th, she died.

At the post-mortem examination, which was made on the following afternoon, a large ovarian cyst was found, the walls of which were black and gangrenous; the peritoneal coat of the small intestines was also seen to be in a similar condition.

The paper concluded with a few general ob-

servations to show that this was a case of puerperal peritonitis, commencing about the third day after labor, and involving chiefly the peritoneal covering of an old-standing ovarian cyst. It was also remarked, that this is not the first case of fatal puerperal fever in which Dr. West has seen the milk continue in the breasts until death; and hence, though this is an exceptional occurrence, still we must not rely too much on it as constituting a favorable symptom.

A discussion followed, in which Dr. Tanner, Mr. Ballard, and Dr. Routh took part. It was thought that, examining the facts as detailed, there was no evidence to prove that the case, was not one of simple inflammation of an ovarian cyst instead of puerperal fever; while the prognosis which was given appeared somewhat extraordinary.

## SUDDEN DEATH FROM OCCLUSION OF THE PULMONARY ARTERIES SEVENTEEN DAYS AFTER PARTURITION.

BY DRAPER MACKINDER, M. D.

Two cases are detailed which have recently occurred in Dr. Mackinder's practice. In the first, the patient was thirty-two years of age, and had been delivered of her second child after a natural and easy labor. Seventeen days afterwards, while apparently in good health, she rose up convulsively, said she was choking, and died. On subsequently examining the body, a large, branching, fibrinous plug was found completely stopping up the right pulmonary artery and its immediate ramifications; while the entrance of the left pulmonary artery gave lodgment to a large and tolerably firm concretion. The heart was rather thin, and the lungs were slightly congested: but there was no further trace of disease about the body.

In the second instance, the patient had an easy labor, and for a few days afterwards all appeared to progress favorably, when she imprudently left her bed-room and exposed herself to cold. Shortly afterwards she was seized with difficulty of breathing, gasping, and cold clammy sweats, from which death relieved her in twenty minutes. Permission to make a post-mortem examination could not be obtained, and hence it could only be surmised that the fatal event was due to the plugging up of some important but smaller vessel than either of those found obliterated in the first example.

Dr. Graily Hewitt stated that an elaborate essay on sudden death during the puerperal state had been recently published in the "Memoirs of the Imperial Academy of Medicine of Paris," but the author of that essay had not thrown any considerable light on the interesting question of the cause of death under these circumstances. The case of the Duchess de Nemours, who died from plugging of the pulmonary artery, would be in the recollection of the Fellows of the Society. From personal inspection of the clot, he was able to state that in this case the clot occupied the pulmonary artery and several of its ramifications, and was so firm that it could not

have been formed subsequently to death. Respecting those cases in which sudden death during the puerperal state was connected with the presence of coagula in the pulmonary artery, he would hazard the following supposition as to the causes which lead to the coagulation: The blood was so altered in the pregnant woman as to favor coagulation, in the first place; and, in the second place, the maintenance of the recumbent position, usually rigidly enforced by the medical attendant during several days after labor, favored the stagnation of the blood in the heart and chest. It was not unreasonable to suppose that these circumstances had much to do with the occurrence of this fatal accident.

Dr. Priestly recommended that in all cases of sudden death from occlusion of the pulmonary artery, an attempt should be made not only to give an accurate account of the thoracic organs, but also of the condition of the uterus and appendages, more especially of the bloodvessels and lymphatics. The researches of Virchow on this subject had conclusively shown the connexion between emboli formed in the uterine veins, and plugs found in pulmonary arteries; the value of reports on such cases would therefore be greatly enhanced if the investigation were carried further that the immediate seat of obstruction. He thought it not improbable that in chloroanæmic conditions of the system, when there is an increase of fibrin in the blood, a very small amount of acrid material generated in or near the uterus, and added to the blood circulating in the vessels, might cause deposition of the fibrin, and consequent occlusion of the vessels.

**A CASE OF LABOR COMPLICATED WITH FIBROUS TUMOR OF THE UTERUS; DELIVERY BY LONG FORCEPS, &c.**

BY W. O. PRIESTLY, M.D. ETC.

The author stated that in 1858 he had been consulted by the wife of a professional friend, who was suffering from menorrhagia, and to whom he recommended a plan of general treatment in the first instance; but no improvement taking place, the cervix uteri was dilated by sponge tents, and a cluster of vesicular polypi removed. No fibrous tumor or large polypus existed at the time, but an irregular nodule, about the size of a hazlenut, projected into the uterine cavity at the junction of the cervix with the body of the organ. The lady soon afterwards became pregnant; and when labor supervened, the first stage was obstructed by the presence of a flattened mass in the lower segment of the uterus, which turned out to be a fibrous tumor, four inches in diameter, and more than an inch in thickness, situated exactly where the fibrous nodule had been discovered before pregnancy. The effect on the labor was to prevent the head descending on the os uteri, the entire uterus, with its contents, sinking low in the pelvis, and becoming impacted there. Turning was considered impracticable, but the dilatation condition of the os uteri allowed the use of

the long forceps, and delivery was thus effected without injury to the mother—a living child being produced. Subsequently, during the involution of the uterus, the tumor was enucleated, and hung out of the uterus into the vagina. During this process, the constitutional irritation and local pain were so great that it was found advisable to remove the tumor. This was done by the *écraseur* on the fourteenth day after delivery and so much bleeding followed as to necessitate the use of the plug. Ultimately, the patient made a favorable recovery. The author believed the hæmorrhage might have been less, after the removal of the tumor, had the *écraseur* been used less rapidly.

**A CASE OF SPONTANEOUS RUPTURE OF AN OVARIAN SAC EXISTING WITH PREGNANCY, AND ITS SUCCESSFUL TERMINATION.**

BY DR. CLAY,

of Manchester. Also by the same author,

**A CASE OF SUPPOSED ABSENCE OF UTERUS AND OVARIES.**

The titles of these papers sufficiently indicate their nature. With regard to the latter,

Dr. Rigby stated that he had met, in the course of his life, with several cases of deficient or absent uterus. He had described two or three in the early numbers of the *Medical Times*, as illustrations of one form of amenorrhœa, the patients never having menstruated. Some of these cases were accompanied with a defective or closed state of the vagina; in other, there was merely a short vaginal canal, at the upper extremity of which a small nodula body pointed out the presence of a rudimentary uterus; in others, no trace of a uterus could be detected. In one case of a married woman, where menstruation was regular, the vaginal walls were merely adherent throughout their whole length. He fixed a globular sponge tent firmly between the lavia by means of a T-bandage, and having produced slight separation, was enabled to continue it up to the extremity of the canal, where a healthy uterus was found.

In answer to a question from Dr. Tanner, as to what had been the success of operations in such cases, he (Dr. Rigby) regretted that in the case just alluded to the patient returned immediately into the country, and he had heard nothing more of her. He remembered an extremely interesting case, occurring some years ago, at St. Bartholomew's Hospital. A young girl, seventeen years of age, had well-marked *molimina menstrualis*, but no catamenial discharge appeared. As these periodical attacks became more and more severe, with great constitutional disturbance, she came into the hospital. A congenital abnormal state of parts was found. The vagina formed an irregular blind canal, without any os or cervix uteri. On further examination, it was found that the posterior wall of the bladder, at its lower half, was wanting, so that the vagina and bladder formed one

cavity, divided at its upper portion by a crescentic septum. Behind the vagina, a hard globular mass could be felt, which was punctured, so as to permit of the escape of some retained menstrual fluid. Unfortunately, the puncture healed, and the patient left the hospital.

**TWO CASES OF CRANIAL BLOOD-SWELLING, WITH REMARKS ON THE NATURE OF THESE TUMORS.**

BY EDWARD RIGBY, M. D., ETC.

After relating the histories of two examples, the author proceeds to show that these cases are not unfrequently mistaken for hernia cerebri, an exceedingly rare and dangerous malformation, and which never occurs on the parietal bone, but always over a fontanelle or a suture. On opening these cranial blood-swelling, they are found filled with dark, semi-fluid blood, beneath which the bone is healthy. The collection of blood is usually beneath the scalp and tendinous aponeurosis of the occipito-frontalis muscle, the bone being covered by its pericranium. Sometimes, though more rarely, the pericranium itself is elevated by the collection of sanguineous fluid; and besides these two forms, other modifications of cranial blood-swelling have been described, but if they really do occur, they are of exceeding rarity. Great misapprehension has been entertained by several authors respecting the progress of these tumors. Thus it has been stated that much constitutional disturbance would be set up if this accumulation of blood were allowed to remain; that it would become putrid; that fever would result; that there would be danger of ulceration, sloughing, &c. Hence it has been recommended to open these swellings, and evacuate their contents, at an early period, before those changes could occur. But the success of these modes of treatment has been anything but encouraging, and hence Dr. Rigby advises that the practice of Professor Naëgelé should be followed. This consists literally in doing nothing. As long as the infant remains healthy, the effusion will gradually be absorbed, so that by the time the child is a month old the tumor will have entirely disappeared.

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**ROYAL SOCIETY.**

SIR BENJAMIN BRODIE, BART., President.

**ON THE MODE IN WHICH SONOROUS UNDULATIONS ARE CONDUCTED FROM THE MEMBRANA TYMPANI TO THE LABYRINTH IN THE HUMAN EAR.**

BY JOSEPH TOYNBEE, F.R.S.,

Aural Surgeon to St. Mary's Hospital.

THE opinion usually entertained by physiologists is, that two channels are requisite for the transmission of sonorous undulations to the labyrinth from the membrana tympani—viz., the air in the tympanic cavity, which transmits the undulations to the membrane of the fenestra rotunda and the cochlea, and, secondly, the chain of ossicles, which conducts them to the vesti-

bule. This opinion is, however, far from being universally received. Thus one writer contends that "the integrity of one fenestra may suffice for the exercise of hearing;"\* another expresses his conviction "that the transmission of sound cannot take place through the ossicula;"† while Sir John Herschel, in speaking of the ossicles, says "they are so far from being essential to hearing, that when the tympanum is destroyed, and the chain in consequence hangs loose, deafness does not follow."‡

The object of this paper is to decide by experiment how far the ossicles are requisite for the performance of the function of hearing. The subject is considered under two heads, viz. :—

1st. Whether sonorous undulations from the external meatus can reach the labyrinth without the aid of the ossicles as a medium.

2nd. Whether any peculiarity in the conformation of the chain of ossicles precludes the passage of sonorous undulations through it.

1. *Can sonorous undulations reach the labyrinth from the external meatus without the aid of the ossicles as a medium?* This question has often been answered in the affirmative, apparently because it has been ascertained that in cases where two bones of the chain have been removed by disease, the hearing power is but slightly diminished. In opposition to this view, it must, however, be remembered that the absence of the stapes is always followed by local deafness, while a fixed condition of this bone (ankylosis) is accompanied by very serious deafness. The following experiments, selected from several others, demonstrating the great facility with which sonorous undulations pass from the air to a solid body, indicate that the stapes, even when isolated from the other bones of the chain, may still be a medium for the transmission of sounds to the fenestra ovalis and the vestibule.

*Experiment 1.*—Both ears having been closed, a piece of wood, five inches long and a half an inch in diameter, was held between the teeth, and a vibrating tuning fork, C', having been brought within the eighth of an inch of its free extremity, its sound was distinctly heard, and continued to be heard, for between five and six seconds.

*Experiment 2.*—Three portions of wood of the same length and thickness as that used in the previous experiment were glued together, so as to form a triangle somewhat of the shape of the stapes; the base of this triangle being placed against the outer surface of the tragus, the tuning fork C' vibrating within a quarter of an inch from its apex was heard for twelve seconds.

2. *Is there any peculiarity in the construction of the chain of ossicles to prevent the passage of sonorous undulations through them?* This question has also been answered in the affirmative, on account of the various planes existing in

\* Mr. Wharton Jones, *Encyclopædia of Surgery*, "Diseases of the Ear," p. 23.

† Mr. Brooke, *THE LANCET*, 1842, p. 380.

‡ *Encyclopædia Metropolitana*. Article, "Sound," p. 810.

this chain, and of the joints between the several bones composing it.\*

The following experiments, selected from a variety detailed in the paper, indicate that neither the variety of the planes existing in the chain, nor the presence of joints, prevents the passage of sonorous undulations through it.

*Experiment 1.*—Two pieces of wood, each five inches long, were glued together so as to represent the planes of the malleus and incus, a triangular piece similar to that used in the last experiment being glued to one surface of the inferior extremity of the portion representing the incus, so as to imitate the plane of the stapes. Three pieces of wood, each five inches long, were also glued together, end to end, so as to form a straight rod. The vibrating tuning fork, C', being placed at one extremity of the apparatus representing the chain of bones, and the other end being placed between the teeth, the sound was heard most distinctly for several seconds; and when it ceased to be heard, the straight rod was substituted, and the sound was again heard, but only for three seconds.

*Experiment 2.*—Between each of the three pieces of wood, representing the chain of ossicles, similar to those used in the previous experiment, were placed, instead of glue, two layers of india rubber, about as thick as ordinary writing paper; the pieces of wood being held together, the tuning fork placed at one end of the chain, was heard as distinctly and as long as in the previous experiment.

The experiments, dissections, and observations recorded in the paper, induce the author to arrive at the following conclusions:—

1. That the commonly received opinion that sonorous undulations pass to the vestibule, through the chain of ossicles, is correct.

2. That the stapes, even when disconnected from the incus, can still conduct sonorous undulations to the vestibule from the air.

3. So far as our present experience extends, it appears that in the human ear sound cannot reach the labyrinth from the membrana tympani without the agency of two media—viz, the air in the tympanic cavity, and the chain of ossicles.

#### EPIDEMIOLOGICAL SOCIETY.

DR. BABINGTON, President.

Dr. M'William read a paper, entitled

PRACTICAL REMARKS ON CHOLERA MORBUS; ITS ORIGIN, NATURE, AND TREATMENT: WITH CASES,

by H. Cameron, Esq., Surgeon 1st Battalion Artillery, H.M. Indian Forces. The author, after adverting to the multiplicity of views held by the profession with reference to the cause, nature, and treatment of cholera, advanced the opinion that this disease was caused by a poison in the atmosphere, and that it was

\* Mr. Brooke, loc. cit.

not contagious, but that it required a certain condition of the system to bring it under the influence of the choleraic poison. He considered that the great source of error in reasoning upon the nature of cholera, was mistaking the effect for the cause of the disorder. Vomiting and purging are present, and are caused by cholera, it is true; but they are not cholera itself, any more than are the peculiar state of the blood and the cramps by which this disease is characterized. Cholera is considered by Mr. Cameron as a disease in which the nervous system, and it alone, is engaged, and upon which the cholera poison acts, so as to produce spasms and the other symptoms of cholera. In support of this view, he says that post-mortem investigations have revealed no morbid appearances of the viscera; and that it is only by microscopical examination that the phenomenon of the minute vessels of the intestines being open-mouthed from loss of contractile power has been discovered—accounting for the absence of serum in the blood, and the congee-like appearance of the choleraic motions. If, adds Mr. Cameron, it be admitted that the nervous system is really the seat of the disease, we have advanced to an important step in the inquiry, which leads to a rational mode of treatment. The tremendous shock which the nervous system has sustained is to be met and combated, its effects remedied, and vitality, which is at its lowest ebb, restored. The author believes chloroform capable of effecting these objects. He also recommends the internal administration of chloroform, with camphor mixture and ammonia; but his main reliance is on chloroform by inhalation.

A discussion followed the reading of this paper, in which Dr. Babington, Dr. Murchison, Dr. Greenhow, Dr. Camps, and Dr. M'William took part.

### A Mirror OF THE PRACTICE OF MEDICINE AND SURGERY IN THE HOSPITALS OF LONDON.

Nulla est alia pro certo noscendi via, nisi quam plurimas et morborum et dissectionum historias, tam aliorum proprias, collectas habere et inter se comparare.—MORGAGNI. *De Sed. et Caus. Morb.*, lib. 14. Proœmium.

#### LONDON HOSPITAL.

*Non-dilatable Stricture of the Urethra for thirty-eight years, treated by Internal Division with Civiale's Urethrotome.*

(Under the care of Mr. CURLING.)

WE have already in the "Mirror" devoted some consideration to the treatment of certain forms of intractable stricture by internal division—a method which is receiving a fair share of attention at the hands of our hospital surgeons. A striking example, however, in which



the patient (in whom a modification of Syme's operation had not proved successful) had suffered from irritable stricture for thirty-eight years, which had resisted all efforts at dilatation, was recently submitted to internal division with very fair results at the above hospital. By the short history of the case it will be seen that the patient had had some months before an abscess in the scrotum; he was liable to attacks of orchitis, and altogether was a very irritable subject. When admitted, a No. 1 and then a No. 2 catheter were passed. This was followed by orchitis, on the disappearance of which the No. 2 instrument was kept in for twenty-four hours; then a No. 3 sound was retained for the same period of time, when internal urethrotomy was resorted to. This was repeated a second time, and finally, when he left the hospital, a No. 9 could be passed with tolerable ease. As we have before observed, it is in such cases of non-dilatable stricture that urethrotomy holds out such good prospects of a permanent cure. For the notes of the case we are indebted to Mr. F. Dawson, one of the pupils of the hospital:—

John H—, aged 52, by occupation a coal-whipper, was admitted on February 8th, 1859. On inquiring into his previous history, he stated that he had been admitted into the hospital six months before for a stricture, from which he had suffered for the last thirty-eight years, and had generally been in the habit of passing a small bougie for himself. On his admittance at this time, catheters had been passed, but never higher than No. 3. He had had a modification of Syme's operation performed upon him by Mr. Curling, and had suffered from a large abscess in the scrotum and perinæum. Being able to pass No. 4 catheter, he was advised to go out, and again to apply for relief if he deemed it necessary. This he did, and was admitted February 8th. He was ordered a warm bath, and a No. 1 instrument was introduced; this was continued up to the 15th, when a No. 2 silver catheter was passed, and he was ordered half a drachm of laudanum at once, with half an ounce of castor oil next morning. After the introduction of this instrument he was seized with an attack of orchitis, to which he was extremely subject. Six leeches were applied to the scrotum, and he took an ounce of the house mixture. After this attack had subsided, Mr. Curling pursued a new course of treatment. No. 2 silver catheter was passed by the house surgeon, and kept in for twenty-four hours; this was on the 21st of April.

April 22nd.—Mr. Curling passed No. 3 silver-plated sound, and ordered an opium suppository at bed-time; a warm bath and an ounce of castor oil in the morning; the catheter to be kept in till the next day, when he passed Civiale's instrument, and made an internal incision of the stricture. Only a few drops of blood escaped from the passage after the operation, after which he was enabled to introduce a No. 4 elastic cath-

eter, which was kept in for twenty-four hours. A warm bath and milk diet were ordered.

24th.—No. 4 silver-plated sound was passed, which was kept in for twelve hours. This was continued for several days, when, by passing No. 4 first, No. 5 was introduced, and kept in for several hours; and then by passing No. 5 first, No. 6 was introduced with comparative ease. He was now again seized by his accustomed attack of orchitis, this being nearly three weeks after the operation.

On March 20th, he was ordered an opium suppository at night and in the morning; and on the 22d, Mr. Curling again resorted to the operation, using a larger-sized bistoury, after which No. 7 sound was passed, and kept in for twelve hours. This was continued to be passed for four or five days, when No. 8 was introduced; and then by passing No. 8 first, No. 9 was employed. This was continued for a short time, until the man was able to pass No. 9 for himself, which he faithfully promised to continue to do, and was discharged on the 30th of April, having been in the hospital little longer than two months.

The man presented himself at the hospital in the beginning of June, stating that he passed urine well, but was obliged to continue to use the sound daily, in order to prevent the passage contracting.

#### BRITISH LYING-IN HOSPITAL.

##### *Sudden Death in an Infant, involving important Medico-legal Considerations.*

(Reported by GRAYLY HEWITT, M.D., L.R.C.P.)

The particulars of the case about to be related possess features of unusual interest and importance both to the practical physician and to the medical jurist. The facts of the case are as follows:—

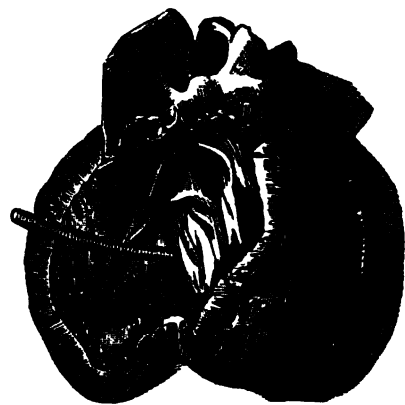
A woman, aged twenty-seven, under the care of my colleague, Mr. Brookes, at the British Lying-in Hospital, was delivered of a female child on the third of April last. The mother continued tolerably well until the sixth day, when the lochia and the secretion of milk were partially arrested, and pain and swelling of the abdomen were observed, together with feverishness. These symptoms were somewhat mitigated by the remedies used. The child was apparently healthy at birth, and nothing remarkable was noticed with respect to its appearance. From the first, it was said that the mother had not evinced maternal feeling and fondness for her offspring to the usual extent. After the sixth day, the child obtained little or no nourishment from the mother, there being but little milk in the breasts. On the morning of the eleventh day after the labor, the mother appeared better; and at half-past nine o'clock, the child was seen lying on the mother's arm, apparently asleep, by one of the nurses of the hospital. The same nurse then proceeded to wash

and dress another infant, this operation being performed within a few yards of the bed in which the woman and child were lying, and in such a position as to command a side view of the bed in question. At about a quarter to ten, the mother of the infant suddenly exclaimed, "Oh, my child is dead!" and on the nurse proceeding forthwith to her assistance, the infant, who had been seen a quarter of an hour before, apparently asleep and well, was found lying in the same position as before, or nearly so, but "quite black in the face and head," and without any evidence of life. The infant was immediately put into a warm bath, and every means resorted to for restoring animation. The body was quite warm, but life was extinct. During the quarter of an hour immediately preceding the death of the infant, no noise of any kind had been heard, and no particular movement had been noticed in the bed in which the mother was lying.

About four hours after the death of the child, being at the hospital on other business, I had an opportunity of seeing the child in company with Dr. Henry Davies. The body was then slightly rigid. There were no marks of violence about the throat, or indeed on any part of the body, but the sides of the face, the sides and back of the head, the ears, the gums, and inside of the lips were of a deep blue color. The body was thin, and not well nourished. The mother, whom I also saw with Dr. Davies on the day of the death of the child, was then feverish; the skin hot and dry; the pulse 130; the tongue dry at the edges, and brown, but in the centre coated thickly with a creamy-looking exudation. Articulation was imperfect, owing to the dryness of the lips, and there was great thirst. The lochia and milk were little in quantity; the abdomen tympanitic, but not painful. The countenance was dusky; the expression far from natural; a certain degree of wildness and rolling of the eyes were observed. Questions put were answered rationally, and, compared with her condition on the previous day, she was reported to be better.

The post-mortem examination of the infant, performed by Mr. Brookes, assisted by Mr. Canton and myself, took place five days subsequently. The congestion about the head had somewhat diminished since the day of the child's death, but was still present to a marked degree. The scalp was congested, and the vessels of the calvarium very full of blood; the bones of the head developed to the normal extent. The pia mater and choroid plexuses were unduly congested; the lateral and other sinuses were very full of blood. The ventricles of the brain contained very little serosity, and the brain substance presented nothing remarkable beyond undue fulness of its vessels. On close examination, in one or two places under the parietal dura mater were seen very small ecchymoses. A small quantity of serous fluid escaped from the vertebral canal. The lungs were deeply

and equally congested; slight ecchymotic spots were seen under the pleura. Every part of them had been duly inflated. The internal surface of the pericardium, the external surface of the pulmonary artery and of the aorta at their origin, and the parietal pleura, were minutely injected with blood, and on the internal surface of the pericardium were seen a few minute ecchymotic spots. On cutting into the heart, the right side of which was greatly extended with semi-coagulated dark blood, the following appearances were observed:—The valves of the aorta and the mitral valves healthy, but the pulmonary orifice presented a remarkable and rare form of disease. The valves of this artery were generally very much thicker than usual, and on one of them were situated two rounded vegetations projecting across the orifice. These vegetations were smooth, red, and situated closely together, the one measuring a fifth of an inch in diameter, the other rather less. The calibre of the vessel was reduced by the presence of these bodies, together with the thickening of the remainder of the valves, to a very considerable extent, and during life the quantity of blood passing through the orifice must have been extremely small. An opening of a rounded form, and one-eighth of an inch in diameter, was found in the septum ventriculorum. The stomach was healthy, and the other viscera presented nothing worthy of remark.



*Remarks.*—What was the cause of the death of the child? Putting aside for the moment the evidence derived from a post-mortem examination, the circumstances under which the death of the child took place were such as to render a searching investigation of the case necessary. The child had been apparently in good health up to the morning of its death; the death took place suddenly, and the head and face were seen to be intensely congested immediately afterwards. The mother was reported to have made use of expressions which were indicative of anything but a maternal feeling for her infant. On the other hand, the death of the child occurred in the presence, so to speak, of one of the attendants, and no unusual noise, no movement, was heard or observed by the attendant in question.

or by any of the patients in the ward. It was impossible at this stage of the history of the affair to give a decided opinion as to the cause of the death.

The examination of the body fortunately dispelled all doubts as to the nature of the case, and was the means of setting aside certain possible conclusions with respect thereto of a very painful character. The child had evidently died from natural causes, the only wonder being that the existence of the unusual and extensive disease of the pulmonary valves should have been compatible with the persistence of life for so long. In the communication between the two ventricles we find, however, an explanation of this apparent difficulty. The absence of all signs of cyanosis or dyspnoea during life is, as experience has shown, not very unusual in infants, even when there is considerable disease of the valvular apparatus, or misdirection of the blood current.

Another element in the case which would very possibly have assumed great importance, had no disease of the heart been discovered, was the condition of the mother. For some days previous to the death of the infant, she had been very ill, and her illness was of that kind which is known to have been, in puerperal women, not unfrequently associated with unnatural feelings and acts towards the offspring, and which, in a more advanced form, is known as puerperal mania. The issue of the case renders it unnecessary to pursue speculation on this subject further.

At the inquest which was held on the above case, Mr. Wakeley remarked that he had never heard of, nor met with, an instance in which death had been associated at such an early age with the extensive disease of the pulmonary valves above described.

#### UNIVERSITY COLLEGE HOSPITAL.

##### *The Treatment of Old and Obstinate Strictures by Continuous Dilatation.*

(Under the care of Mr. HENRY THOMPSON.)

When time is extremely valuable, as it always is to the laboring man—when the bi-weekly visit to the hospital, to have a bougie or catheter passed, is attended with no great progress, and the painful symptoms of old-standing and severe stricture are but little diminished by it, the results of confinement to bed during five or six days, in order that a catheter may be tied in, are usually extremely satisfactory. We have had frequent opportunities of observing these results, and of witnessing how very speedily, safely, and even pleasantly, (to translate fully the well-known Latin adage,) this treatment is successful in dispelling all those painful symptoms which so frequently render the patient's life one of great suffering, and in enabling him to pass the full and forcible stream of health, in place of the slender thread or succession of

drops only, by which he previously been accustomed to relieve the bladder. This mode of treatment we occasionally see employed at most of our hospitals; more commonly, perhaps, in the cases of patients admitted with retention of urine, in whom there has been considerable difficulty in introducing a small catheter. It is then a wise precaution to permit the instrument to remain for a day or two, and it often happens that, by exchanging it for a larger in forty-eight hours; replacing the second instrument by a still larger one in twenty-four hours more, and that again by another after a similar period, almost the natural calibre of the urethra is reached, and the patient greatly relieved.

This practice, with certain precautions which he thinks necessary to its successful prosecution, is largely employed by Mr. Thompson at the above hospital, and we have thought it desirable to illustrate it for the sake of rendering better known those points which his experience indicates as of some importance to be attended to. He usually adopts it for those out-patients who, having attended his visits for six weeks or thereabouts with little progress, make it convenient to sacrifice one week to treatment in bed. This period of time is generally all that is necessary, and usually suffices to bring back the calibre to its original extent. Two recent cases which we have seen may be given here; they are fair specimens of the practice, and are constantly occurring in his out-patient room:—

CASE 1.—J. A——, aged fifty-two, has been the subject of stricture for more than twenty years. His health has been much injured by the constant calls to pass urine and broken rest, of which he has long been the subject. At night his urine passes involuntarily, and it is obvious that he at no time is able to empty his bladder, although he is almost continually making efforts and rises ten or twelve times every night to do so. He has had much treatment of various kinds; but for the last few months his sufferings have increased, and he now seeks relief by the advice of a medical man, who sends him for that purpose to the hospital.

March 29th, 1859.—After a little difficulty, and trials with instruments of larger size, Mr. Thompson introduced a very slender silver catheter, No.  $\frac{1}{4}$  into the bladder, and drew off thirty ounces of urine which were retained there, although he had just been passing urine. It was rather high-colored and offensive, and the last ounce was thick from admixture of pus and phosphates. His general health was attended to, medicine and diet prescribed, and to come again in three days.

April 1st.—After his last visit he passed no urine for six hours, the bladder refilling during that period, since which the symptoms have been as before. The same instrument was passed, and still very tightly held.

May 20th.—He has continued to attend at the hospital as an out-patient for about six weeks; but although regular and persevering in atten-

dance, the stricture would not admit more than a No. 2 catheter. His symptoms have much diminished in intensity even by this advance, and the quantity of urine remaining after the act of micturition was reduced to about twelve ounces; but it was obviously desirable to make greater progress, and Mr. Thompson proposed to secure a catheter in the urethra at the patient's house, placing him, in part, under the care of the assistant in the out-patients' room—Mr. Nankivell, to whom we are indebted for the particulars of the case.

21st.—No. 1 silver catheter introduced, and to remain tied in, so that the end just reaches the neck of the bladder.

22nd.—The stricture still holds the catheter rather tightly; he is perfectly comfortable, and eats and drinks as usual.

23rd.—Catheter loose; a No. 4 gum catheter substituted. ●

24th.—A No. 6 gum catheter tied in in place of the preceding.

25th.—Instrument replaced by No. 8.

26th.—No. 10 passed easily into the bladder; removed in the evening; he has had no pain nor discomfort; health and appetite excellent.

27th.—He came to the out-patients' room at the hospital; No. 10 catheter passes easily; rose only once last night to micturate.

June 10th.—Nos. 10 and 11 were passed every day and instantly removed during the second week. During the third week, which expired to-day, the same instruments have been passed twice only—that is, on the out-patients' days. He now begins to learn to pass an instrument for himself, to prevent that recontraction which an old and obstinate stricture always manifests, sooner or later, after treatment by dilatation, if not prevented by such means. He is now, in every respect, perfectly free from symptoms of stricture.

CASE 2 was treated by Mr. Thompson, in the hospital, in ward No. 2. J. T.—, aged thirty-eight, was admitted April 26th. A silver catheter, No. 1, was passed in the first instance, which was exchanged for No. 3 gum elastic after forty-eight hours, and in six days No. 11 was arrived at. He was discharged May 4th, and attends at the out-patients' room, where No. 10 is passed with ease once or twice a week.

This case was of nearly equal severity with the foregoing, and was generally so similar that it is unnecessary to detail it. He is now completely relieved, having suffered no pain nor any bad symptom throughout his treatment.

Mr. Thompson remarked to the students that in relation to the management of the instruments themselves, there were three points to be attended to, viz.,—First: that the end of the catheter when tied in should not project into the bladder, or at any rate but very slightly: the proper distance is readily ascertained by observing the flow of urine through it, and drawing the instrument outwards until the stream ceases; the holes have then been removed from

the bladder, and a very small portion of the instrument can remain there. The urine usually passes readily when the patient requires to micturate; but if not, the slightest pressure on the instrument enables him to do so. Secondly: that the first catheter being removed, as a rule, the succeeding instruments employed should be made of flexible gum elastic, as causing less pain and irritation—indeed, very rarely any; while the process of dilatation goes on almost as rapidly as with silver catheters. The later instruments, when used throughout the period, are undoubtedly prone to irritate the urethra and the neck of the bladder. The silver catheter only is used at the outset, partly because it is usually necessary to employ such a one in order to arrive at the bladder when a stricture is very narrow and unyielding; and partly because a very slender elastic catheter is liable to be blocked up so that the urine cannot flow through it, and the patient is thereby prevented from micturating. Thirdly: that in no case should an instrument be permitted to remain in the urethra which fits *very tightly* in the stricture. More success will be gained by always using a catheter which lies loosely in the canal, than one which, although a size or two larger, is grasped by the contracted portion. In the latter case the process is painful, since, frequently, distressing spasm continues until the instrument becomes loose; and if, as soon as this occurs, another tight instrument is introduced, the irritation is perpetuated, and inflammation may set up; or at all events the patient is liable to be worn out by pain and loss of rest, which evils may be wholly avoided by adopting the plan of using an instrument which lies rather loosely in the canal. Such a one effects by its continued presence as much dilatation of the stricture as one which fills it completely. During the period of remaining in bed, the patient takes fifteen or twenty grains of citrate of potash four or five times daily in as much water, or barley-water, as he pleases, for common drink; and a little hyoscyamus or opium, if any pain or irritation render it necessary. The latter is advantageously employed also in the form of suppository; but this is rarely necessary if proper care is taken in the management of the catheter, which is the essentially important part of the treatment.

#### GUY'S HOSPITAL.

*Compound Fracture of the Skull by a Hatchet, with Hæmorrhage; Removal of loose Bone, and exposure of the Dura Mater: Recovery.*

(Under the care of Mr. BIRKETT.)

Symptoms of compression set in on the eighth day in the following case, which necessitated the removal of two large pieces of bone, leaving the dura mater covered by a thick coagulum. For many weeks this membrane was exposed, it became gradually covered over by granulations

springing from the sides of the wound, and ultimately cicatrized. There were not at any period of her illness any symptoms of meningitis, nor other evidence to show that the membranes of the brain were wounded.

Jessie N—, aged forty-six, was admitted July 25th, 1858. A short time before, her husband had attacked her with a hatchet, whilst she was asleep, her head being on a pillow, and had inflicted the injuries on her head for which she was admitted. There were three scalp wounds on the left side of the head; the anterior one situated a little above the left eye-brow, and which was the smallest; a middle one over the temporal fossa, and a third one over the left parietal tuberosity. With the finger the surface of the skull could be touched, and it was quite certain that the skull was fractured. She lay in an almost unconscious state, but replied to questions, although in a very low tone. The pulse was very feeble, but this might have arisen partly from loss of blood, which was said to have been large. There were no indications of severe cerebral injury, and therefore the wounds were covered with wet lint, and mild, but not stimulating, diet ordered. Absolute rest was enjoined, and freedom from every disturbing influence. The hatchet with which the injury was inflicted was very heavy, with a blunt, convex, wedge-shaped edge, and a square head, through which the handle passed. The blow was supposed to have been given with the square part, which was covered with blood and hair.

July 29th.—There were no indications of cerebral injury, and the only complaint she made was of severe pain in the head. She replied to questions sensibly. The wounds had taken on a sloughy aspect, and they were dressed, with the addition of a little nitric acid in the water. Continued the same diet.

Aug. 2nd.—In the morning of this, the eighth, day since the injury, she had convulsive contractions of the muscles of the upper extremities, clenching of the hands, and the left pupil was more dilated than the right. She did not reply to questions so sensibly as before; she seemed "light-headed;" the pulse was slow and weak, and her facial expression was more anxious than before. Mr. Birkett saw the patient about one p.m., and as the symptoms indicated local pressure, or mischief of some kind arising from the injury, he incised the scalp between the posterior and middle wounds. The skull being thus exposed, the bone was seen to be fractured, and some of the fragments on different levels. The fractures ran both upwards to the vertex, and downwards towards the base, and by gentle manipulation and management, two large pieces of bone were removed. (Marked No. 1 in the figures.) These two pieces of bone differ curiously in this respect; one, the anterior piece, shows a large surface of the external table, and a small portion of the internal; whilst the posterior fragment shows a small piece only of the external table, and a large surface of the inter-

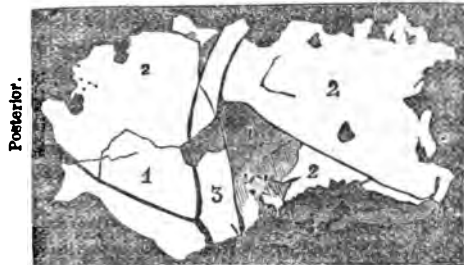
nal. The internal table of this fragment particularly demands attention, as it contains the

FIG. 1.



External surface. (Rather more than half the size of nature.)

FIG. 2.



Internal surface.

groove for a branch of the middle meningeal artery, and to that portion of it marked 3, Fig. 2, especial interest is attached. By careful examination, it may be seen that the line of fracture extends along this groove, at first for about a quarter of an inch, and where the groove divides the fracture, accompanies one of its divisions.

When the two pieces of bone were removed, a large coagulum of blood was seen, which entirely obscured the dura mater; and when the thin piece of the inner table (marked 3, Fig. 2) was gently elevated—for, although detached from its bony connexions, it was adherent to the dura mater—active arterial hæmorrhage took place, which immediately ceased when it was left alone. Mr. Birkett did not, therefore, attempt to remove it, but left it to be detached by natural processes. He left directions, however, that if hæmorrhage took place to any amount, this piece of bone should be removed, and the bleeding vessel secured.

3rd.—Last evening there was hæmorrhage, which was arrested by the application of cold, and slight oozing of blood continued through the night; pulse small and rapid. To take some wine, in addition to light diet.

4th.—There was considerable hæmorrhage this morning for about two hours, which was at last arrested by clearing away the coagulum, and exposing the surface of the wound to the air; pulse small and rapid, and she is very weak.

5th.—Improved, and was able to eat some mutton, and takes wine and other nourishment.

6th.—Improving; takes nourishment very well; she is quite sensible; the pupils act nor-

mally, and are of equal size; pulse has more power, but is more rapid than in health; the wound looks healthy.

12th.—The small piece of the internal table (marked 3 in Fig. 2) from under which the bleeding came when the first pieces of bone were removed, being loose, was removed by Mr. Birkett to-day. Along its posterior border was half the groove for a branch of the middle meningeal artery, and towards its anterior border the whole groove for another arterial branch. The hæmorrhage, of course, proceeded from a laceration of one or both of the arteries traversing these grooves. Water-dressing was applied to the wound.

Sept. 24th.—Has been slowly improving to the present date, and the edges of the broken bone are beginning to come loose. Two small pieces removed to-day.

Oct. 6th.—At this date she began to complain of a peculiar hissing sound or noise in the head, which distressed her very much. She was very weak, and the tongue was much furred over its whole surface with a creamy, white secretion. Gentle aperients were occasionally given.

18th.—Mr. Birkett removed two large pieces of bone, which had exfoliated from the cranial bones forming the vault of the skull (marked 2 in the figures).

25th.—Small pieces of exfoliated bone continued to come away, and the wound healed slowly by granulations from the surrounding integuments dipping into the hole and uniting with the surface of the dura mater. Her general health slowly improved.

From this date, she may be considered to have been convalescent, although complete recovery was occasionally retarded by attacks of giddiness, sickness, prostration, loss of appetite, numbness in the lower extremities, noises and sinking and hissing in the head. The wound healed completely, and in March, 1859, she left the hospital. She was then able to give evidence at the police-court.

This case is divisible into three periods:

1. The immediate effects and consequences of the injury.
2. The secondary effects.
3. The period when the edges of the injured bone were exfoliating and cicatrization advancing.

The first period extends from the moment after the infliction of the injury to the day when the first well-marked cerebral symptoms were developed, or nearly eight days. Soon after admission to the hospital, it was ascertained, through the scalp-wounds, that the skull was injured; but as then no symptom whatever existed of cerebral injury, or even of depressed bone, the part was merely dressed with water-dressing, and light, nourishing food, with a little stimulus, given. Her state at this time was that of great depression, and she seems to have very little recollection of the events which then occurred.

The second period commenced on the eighth day after the accident, and the secondary effects, which were well marked, depended more upon the effusion of blood over the external surface of the dura mater—for a large coagulum was seen when the bone was removed—than upon the broken and depressed bone itself. The practical interest attaching to the broken and depressed bone centres in the small piece of the internal table marked 3 (Fig. 2), for upon attempting to remove it active arterial hæmorrhage commenced, which ceased when it was allowed to remain at rest. Although some bleeding occurred during the following night, and even next day, yet none of great importance was the result, and this piece of bone was subsequently detached by natural processes alone.

The third period extends from the time when convalescence from the secondary effects of the injury was established, and pieces of the skull were exfoliating from around the wound. During this time she suffered much from pain about this region, and as there were good reasons to believe that the fracture extended towards the base of the skull, and great pain was experienced in the temporal fossa, fears were entertained that the injury extended into that region. On one day there appeared so much fullness over the zygoma that an incision was made with a lancet; but there was no pus, nor could bare bone be felt. During this time it was very interesting to watch the process of cicatrization, which was accomplished by the granulations from the integuments falling over the edges of the bone and dipping into the surface of the dura mater. There were no granulations of a similar character rising to the level of the external table of the skull bones. The medical treatment of the case consisted in the administration of tonics, and occasionally a gentle aperient. Upon three occasions only, mercury was administered and then in very small single doses. The diet was at first nutritious but light, and, during the subsequent treatment, stimuli and as much nourishment as she could take were given.

The woodcuts, taken from photographs, represent the external and internal surfaces of the lost bone. They are rather more than half the natural size. The shape of the pieces of bone which were removed represent, when joined together, an irregular quadrilateral superficial of about three inches and a half from front to back, and about two inches from above to below, or about seven square inches of the lateral cranial walls.

#### MIDDLESEX HOSPITAL.

*Fibrous Tumor of the Scapula, expanding beneath the Bone, and projecting into the Axilla; Successful Removal.*

(Under the care of Mr. FLOWER.)

The under surface of the scapula is occasionally the seat of chronic abscess, situated sometimes in the areolar tissue, connecting the scapula

scapularis and serratus magnus muscles. Such purulent accumulations, when chronic, often cause the bone to project, as if from the presence of an actual tumor. Tumors, however, are comparatively rare, and very few instances are recorded of their invading the subscapular space, although they are now and then to be seen on the external aspect of the bone. On the present occasion we have to record an instance of fibrous growth situated beneath the scapula, spreading out in an attenuative manner along its under surface, and extending into the axilla, where it gave rise to a distinct projection, apparently springing from the outer edge of the bone.

Although fibrous tumors connected with the muscles and fasciæ of the other parts of the body are frequently met with, we do not remember having seen one occupying the situation described in the present example.

M. A.—, aged thirty-three, married, has two children, the younger six years of age; is small, spare, and rather delicate; she lives in the country. Attention was drawn to her left shoulder, four years ago, by irregular, shooting pains, chiefly in the scapula, and which were then supposed to be rheumatic. Soon afterwards was discovered a small tumor about the size of a walnut, hard, and apparently fixed in the upper and posterior part of the axilla. This has been gradually and steadily increasing in size, never causing acute pain, but frequent shootings, especially referred to the scapula and also down the arm, are complained of.

On her admission into Regent ward, March 22nd, 1859, the tumor felt about the size of a small orange, and formed a rounded projection in the middle of the axilla, between the anterior and posterior fold, visible when the arm was raised. It had a hard, dense feel, slightly lobulated, not tender, and could be moved a little from side to side, as if attached by a pedicle. It was quite independent of the humerus, but followed the movements of the scapula, as if connected with the inferior costa of that bone just below the glenoid fossa.

On the 14th of April, Mr. Flower, believing that the tumor was connected with the edge of the scapula, and might be removed without difficulty, proceeded as follows:—The patient under the influence of chloroform, lying on her right side, the left arm was held across the chest, and a little removed from the side. An incision was made through the posterior fold of the axilla, downwards and a little outwards, dividing a portion of the latissimus dorsi and teres major muscles, and directly exposing what was supposed to be the neck of the tumor. A second incision was made over the most prominent part of the tumor in the axilla, downwards and backwards, so that the two, meeting below, formed a V-shaped flap. More room was afterwards gained by prolonging the incision about an inch downward from the apex of the V. The

tumor was now fairly exposed, and separated from surrounding parts, partly by cutting, but principally by breaking down its connexions with the fingers, especially on its anterior side, where it was in close proximity to the axillary vessels and nerves. It was found not to arise from the anterior margin of the scapula, but to pass under it, expanding out as a broad but thin lamella, lying between the ventral surface of that bone and the ribs, reaching nearly as far back as the base of the scapula. Upwards it extended close to the shoulder-joint, but was not connected with it; it had, in fact, no osseous connections. By using the ends of the fingers in the manner described, aided with occasional touches of the knife, the tumor was removed entire. About a dozen small vessels were ligatured, and the wound brought together with silver-wire sutures. For several days after the operation there was considerable febrile disturbance, and some pleuritic pain on the left side, but it all passed off. The patient regained her strength, and the wound being quite healed, she went to her home on the 31st of May; the movements of the shoulder, of course, not having been yet restored.

On examination of the tumor, it was found to be flattened, somewhat quadrilateral in shape, its anterior edge thick and rounded, (it was the lower end of this which was felt projecting into the axilla,) its posterior edge thin and sharp. On section, and under the microscope, it presented most characteristically the features of a fibrous tumor. It was most intimately connected with the subscapularis muscle, in the fascia covering which the tumor seemed to have had its origin, as it was separated by the muscle from the ventral surface of the bone. In its growth, as long as it was confined between the walls of the chest and the scapula, it seems to have merely expanded laterally; but when it had extended forwards, so as to reach the free space of the axilla, it assumes the thick, rounded, slightly lobulated form above described.

#### KINGS COLLEGE HOSPITAL.

*Poisoning by Hydrochloric Acid, half an ounce proving fatal in eighteen hours.*

(Under the care of Dr. BUDD.)

Spirit of salt, or muriatic acid, is but seldom used as a poison—so seldom, indeed, that we possess very few records of the appearances found after death. Orfila has reported but a single case, and Dr. Taylor, in his work "On Poisons," has collected but three cases occurring in the metropolis during a period of sixteen years. The record of the following case, therefore, kindly furnished by Dr. W. Cayley, physician's assistant at the hospital, will prove of interest and value, especially as but half an ounce of the concentrated acid produced death in a feeble woman, sixty-three years of age.

The prominent symptoms were, exhaustion,



feeble pulse, cold and clammy skin, burning pain in the throat and pit of the stomach, retching, and vomiting of brown matter, streaked with blood, and containing shreds of membrane. The fauces now became swollen, she could not swallow, and death ensued in eighteen hours. As observed in other cases, the intellectual functions remained clear to the last. The mucous membrane of the mouth and fauces was found to be white, softened, and stripped in many places by the corrosive effects of the acid, whilst that of the oesophagus was red and inflamed. The back part of the stomach, near to the pylorus, was black, stripped of mucous membrane (which was generally softened in the neighborhood), and marked with black lines. The integrity of the viscus externally was, however, perfect. With respect at the dose required to destroy life, the smallest quantity known was an ounce and a half, which has proved fatal in eighteen hours. Now, in the present instance, four drachms destroyed life in the same period of time; but it must be understood that this was in an old woman, already much enfeebled by previous want of food. The most rapidly fatal case mentioned by Taylor is one which took place in five hours and a half, the dose being two ounces; but he conjectures that if cases of poisoning by this acid were frequent, not only would death be found to ensue perhaps quickly, but that even a drachm might prove fatal.

E. B.—, aged sixty-three, admitted at nine p. m. on May 26th. She is a widow, and is supported by her sons, with whom she has lately had some disagreements, which have preyed much on her mind, and in consequence of which she has scarcely taken any food during the last few days. About three-quarters of an hour before her admission she took intentionally about half a fluid ounce of concentrated hydrochloric acid. She appears to have immediately vomited, and some of the acid was projected over her dress, the color of which was discharged by it. The chemist from whom the acid was bought was applied to, and he sent a white powder, which effervesced in water. After taking this she was put in a cab, and brought to the hospital: while in the cab she again vomited.

On her admission, she appeared much exhausted; her pulse was rapid and feeble; skin cold; the inside of the lips, the tongue, and fauces, were whitened and abraded. She complained of a burning pain in the throat and pit of the stomach, and she frequently retched without bringing up anything. Magnesia, chalk, white of eggs, &c., were at once administered, and swallowed without great difficulty. After taking these she vomited freely; the matters vomited had an alkaline reaction. The patient was then removed to bed, and some milk given. She now vomited some brown matter, streaked with blood, and containing small shreds of mucous membrane. Her fauces now became swollen, and she was quite unable to swallow, the attempt producing violent spasm and choking; she

breathed with a snoring, occasionally stridulous noise, as if there was some obstruction in the larynx. Her voice was thick and inarticulate, and there were intense pain and tenderness over the epigastrium; extremities were quite cold; pulse 180, very feeble. Hot bottles were put to the feet, and enemata of beef-tea, brandy, and laudanum administered at frequent intervals. About one a.m. she rallied a little, the pulse improved in quality, the warmth returned to the extremities, and the pain and tenderness over the epigastrium considerably diminished. The impediment to the swallowing and respiration remained unabated. She continued to vomit at intervals, each act of vomiting causing violent choking; the matters vomited continued to be streaked with blood.

May 27th.—Eleven a.m.: Pulse 120; the tongue now almost black on the upper surface; fauces much swollen and white; rattles in the throat; skin clammy; continues incapable of swallowing; has retained most of the enemata; passes her urine in bed; her mind remains quite unaffected; still vomits occasionally. She continued gradually to get weaker, and died at four p.m., about eighteen hours after taking the poison. She retained her consciousness almost to the last.

*Post-mortem examination twenty-three hours afterwards.*—Body somewhat emaciated; great rigor mortis, the hands being firmly clenched, and the legs extremely rigid. Lungs gorged, but otherwise healthy; heart healthy, and all its cavities filled with black clots; liver much enlarged and in a state of fatty degeneration; gall-bladder much distended; kidneys healthy. There was no serous fluid in the abdomen, and the peritoneum showed no indications of inflammation. The mucous membrane of the inside of the lips, the tongue, and the fauces was whitened and softened, and in some places stripped off; the soft palate and tonsils were much swollen; the epiglottis was erect, swollen, and rigid; the mucous membrane of the pharynx was also whitened and much softened, and could readily be stripped off; that part of it which lines the back of the larynx was nearly all absent, a raw surface being left. On the front wall of the larynx, just below the epiglottis, was a raw surface of about the size of a fourpenny-piece, from which the mucous membrane was entirely absent; the remainder of the larynx and the trachea showed no indications of the action of the acid. The mucous membrane of the oesophagus was much congested, and generally of a red color; near the upper part there were some marks of corrosion. The stomach contained a little light-brownish fluid; the mucous membrane, at the cardiac end, was a little congested, but not otherwise altered. Close to the pylorus, on the posterior surface of the stomach, there was a large patch of a black color; here the mucous membrane was in parts absent, in parts much softened; in the neighborhood the mucous membrane was of a deep-crimson color, and

marked with black lines. The exterior of the stomach had a natural appearance; the mucous membrane of the duodenum was quite healthy.

### ST. BARTHOLOMEW'S HOSPITAL.

*Necrosis of the Lower Jaw from the fumes of Phosphorus; complete removal of the Bone, followed by recovery.*

(Under the care of Mr. HOLMES COOTE.)

Fortunately for us, in this country we do not see so many of the terrible effects arising from the employment of phosphorus in lucifer-match making as are witnessed in France and Germany, where such manufactures are most extensively carried on. Necrosis of the lower jaw is, perhaps, the only special result which comes under the notice of the English surgeon, and which does not appear until the teeth first become affected. Diseases of the lungs, in consequence of the manufacture, are with us almost unknown: whilst in Paris and elsewhere many of the workwomen have to leave their employment from what were looked upon as *neglected colds*, terminating in consumption, but which were, in reality, the result of the inhalation of an atmosphere, which Dr. Dupasquier found to consist principally of hypophosphoric acid, probably mixed with small quantities of phosphuretted hydrogen, and possibly the phosphorus itself in the form of vapor. The breath of these people at night becomes luminous. The valuable Report of Dr. Waller Lewis, presented to both Houses of Parliament in 1855, "On the regulation of Noxious Trades and Occupations in France," very clearly shows that bronchitis, often in a very severe form, is a common affection amongst many of the workpeople, and, in proof of this, he furnishes abundant evidence from various sources, as well as from personal observation.

Now, although in this country we are free from the worst phases of the disease, it still behoves manufacturers to consider whether, in place of phosphorus, some other chemical substance could not be introduced which would produce the igniting effects desired, without the sickening and unpleasant alliceous odor which invariably arises from this element. Such matches are now being manufactured in Paris by M. Canouil. Amongst other varieties, they are made of chlorate of potass, powdered flint or glass, bichromate of potass, gum or dextrin, and water, made into paste. A simple friction produces combustion; there is no unpleasant smell, because there is no phosphorus, and, what is of considerable importance, their manufacture is not injurious to the workpeople. Much misery and suffering are therefore obviated amongst those who are employed in the factories.

In a former "Mirror," when placing upon record an instance of necrosis of the lower jaw, arising from the fumes of phosphorus, in which Mr. Thomas Wakley removed the bone with success at the Royal Free Hospital, we devoted

some attention to the consideration of this subject, and we urged the propriety of the periodical examination of the teeth of those employed in factories where it was used, so that the spread of its destructive influences might be arrested. We referred to several other cases which had appeared in our "Mirror;" but Mr. Wakley's was one of the most remarkable we had seen. The patient has since given up his old employment.

Besides necrosis of the jaw and diseases of the lungs, which arise from phosphoric vapors, it has been ascertained by M. Moignot that the women employed in the manufacture of lucifer-matches are very liable to miscarriage, and so fully aware have the workmen become of this peculiarity that advantage has been taken of it to procure abortion.

In the case which we now record, the disease did not appear until the gums in contact with the diseased teeth became ulcerated, which produced pain and swelling of the jaw, with ultimate complete death of the entire bone. It is somewhat remarkable, that one condyle, together with the coronoid processes of the ramus, should have been withdrawn entire, particularly when we consider the important muscles which are attached to the latter. The phosphoric infiltration remains in the soft structures of the cheeks, thus giving the patient an artificial appearance of health.

Charles T—, aged thirty-nine, a wax-taper dipper, was admitted into the above hospital on the 28th of December, 1858. About thirteen months ago, he complained of much pain and swelling about his lower jaw, commencing in one of the right incisor teeth. Abscesses formed and burst externally through the skin of the cheek. When admitted, his face generally was much swollen, exhibiting the peculiar pasty appearance witnessed in necrosis of the jaw arising from the fumes of phosphorus. Several fistulæ were noticed at the lower margins of the jaw, communicating with dead bone, and giving passage to matter. On opening the mouth, the lower jaw was seen exposed, denuded of periosteum, and quite black in color; it was also slightly movable. He had been working for seventeen years at his calling before the ulceration of his gums commenced.

On the 9th of April, chloroform was given by Dr. Martin, and, when anæsthesia was complete, Mr. Coote proceeded to saw through the symphysis of the lower jaw within the mouth; after which, by the aid of a pair of forceps, the left half of the lower jaw was drawn out entire, without its condyle, but with the ascending ramus. The same proceeding was adopted with the right half of the jaw, which came away with equal facility, but with the condyle, which appeared to be healthy. Some hæmorrhage necessarily ensued, but it was not great, and spontaneously ceased. For some three or four days after the operation, the patient complained of pain in the face, but it gradually diminished

and soon ceased entirely. His health now began to improve, under the use of a liberal diet; his appetite increased, and his strength returned. The investing periosteum of the old bone now began to throw out fresh osseous material, and a new lower jaw was in the process of formation, as has been noticed in other and similar instances. The pasty appearance of the face, and the puffiness of the cheeks, however, remain, and these would seem to be almost the permanent consequences of the affection. He left the hospital a short time back, completely restored in health, and able to speak and articulate with tolerable distinctness.

On examining the bone when cleaned and dried, we found it to be massive, and of nearly double the weight of the healthy bone. It was covered in some places with unhealthy lymph, undergoing osseous transformation.

Ten years ago, there was a patient in this hospital, under Mr. Stanley's care, who was a fellow-workman in the same factory, and whose lower jaw was affected with necrosis arising from the same cause.

#### ST. MARY'S HOSPITAL.

##### *Paralysis from Concussion; Recovery.*

(Under the care of Dr. HANFIELD JONES.)

There could be no doubt in the following case that the brain in the vicinity of the origin of the portio dura and portio mollis had been injured by the accident, and that the functions of these nerves were in consequence impeded, if, indeed, more serious lesion of their structure had not been produced. It seemed, however, probable that the risk of inflammatory complication had in great measure passed by, and a nervine stimulant was cautiously tried, guarding it with a blister in case of need. The result makes it very probable that the motor nerve had only suffered such concussion as threw it, so to speak, for a while out of gear; while the auditory nerve, on the contrary, was irretrievably damaged.

Wm. H—, aged forty, a smith, admitted June 24th, 1858. He resides at Uxbridge. Two months ago he was thrown out of a cart, and fell on the back of his head; he was stunned for five or six hours afterwards. Ever since, he has suffered from giddiness and pain in the head after rising in the morning. Three or four days after the fall his face became drawn to one side (the right) and still continues so. There is much more distortion on some days than on others; and sometimes the face is swollen. He cannot always speak plainly; and cannot hear a watch tick except close to the left ear. Tongue clean, but protruded towards the paralysed (left) side; head cool; appetite good; health good; pulse 62, quiet; skin cool. He is better when lying down. When at work near the fire, has a sensation as of needles pricking the left eye, which is rather injected. He spat

up much blood after the accident, and he thinks a little also came from the left ear. Strychnine, one-twentieth of a grain three times a day, was ordered; and a blister to be applied to the neck if pain should come on.

He improved steadily, and was discharged in the beginning of August, quite recovered as to the state of the face. The blister was not applied.

Feb. 10th, 1859.—The patient to-day visited Dr. Jones, who found that his face was quite normal, but the hearing of the left ear was extremely defective; he could not hear the tick of a watch unless it was actually touching his ear. Mr. Toynbee examined him, and reported that there was congestion of the drum and debility of the nervous apparatus. After working at the forge for some hours, he finds his left cheek drawn upwards.

#### CHARING-CROSS HOSPITAL.

##### *Two Cases of Chorea in Opposite States of the System, Treated by Arsenic and Iron.*

(Under the care of Dr. WILLSHIRE.)

At the present time, there are two cases of chorea in the medical wards of this hospital, which offer a striking contrast to one another. In one patient, a girl fifteen years of age, who has been an inmate for seven weeks, the disease came on some years back, after the death of her father. In her, it is more or less a constitutional malady, for her brother is afflicted with the same disease. She is pale, thin, exsanguine, and of nervous temperament. The other patient was admitted on the 8th of June, having had chorea for fourteen days, which was brought on by the fright consequent upon putting a lighted candle into her mouth. She is also a young girl, with a ruddy complexion and of strumous habit, with her nervous system very impressible. She was treated with zinc and valerian at first, which seemed to answer for a while, when it was changed to Fowler's solution, five and then ten minims three times a day, with the most marked results, for the disease seems to have very quickly yielded. Conjoined with this was a shower-bath every morning.

The anæmic case was of course treated differently, more dependence being placed upon iron, which has shown its good effects in a state of system wherein it was especially indicated.

In neither of these cases was there cardiac disease, nor any history of rheumatism, as we have sometimes remarked, and previous dwelt upon.

The value of arsenic as a remedy in the great majority of cases is looked upon by Dr. Willshire as superior to zinc, and is well worthy of an extended trial. The dose is small, and a long continuance of its use is not necessary, as the choreic symptoms very readily yield to its influence, and soon disappear.

## Clinical Records.

JULY—AUGUST.

### TONICS AND IRON IN ERYSIPELAS OF THE FACE AND SCALP.

We very frequently see the value of the treatment of erysipelas of the scalp and face by the exhibition of the muriated tincture of iron conjoined with tonics, and dusting the inflamed skin with flour, not neglecting proper attention to the chylopoietic viscera. We might refer to several recent instances in which the efficacy of iron has been marked, but shall content ourselves with noticing that of a woman in Guy's Hospital under the care of Dr. Wilks. She is fifty-seven years of age, and was admitted on the 6th inst., but the erysipelatous inflammation had set in a few days before that period, and extended all over the face and the scalp. Its intensity was not so great as to cause closure of the eyes, nor were the features altogether obliterated. The scalp was remarkably swollen, puffy, and extremely tender. When placed in bed, on her admission, the inflammation had apparently subsided, and evidences of desquamation were already manifest. Nevertheless, she was in a precarious condition, being very weak and low, and evidently requiring generous and supporting treatment. Twenty minims of the muriated tincture of iron were ordered every four hours, with eight ounces of wine, porter, and light nourishment. She now began to improve, and when we last saw her (on the 12th instant) she was sitting up in bed, with still some disfigurement of the features, and puffiness and unusual tenderness of the scalp. Her improvement was uninterruptedly steady under the use of the steel, and she is making a good recovery. We have seen cases thus treated from the beginning with equal advantage.

### EXCISION OF THE KNEE-JOINT FOR OLD STANDING DISEASE.

On the 7th instant we were present, at the Great Northern Hospital, when the knee-joint of a man, twenty-six years of age, was removed by Mr. Price. It was one of those cases of disease which he believes to be well adapted for the operation. It was surmised that the mischief was confined to the synovial membrane and the cartilages of articulation. On opening the joint purulent fluid escaped. The ends of the articulating bones were found in the condition expected: the synovial tissue had almost disappeared; the cartilages were entirely removed, except a few spots; while the exposed bone was healthy in appearance, vascular, but not ulcerated to any great extent. The patella was deprived of its cartilage, and was removed. We noticed that the operator, in opening the articulation, first reflected only the skin and sufficient of its cellular connections, so that the infiltrated fat and loose tissue which generally

abound about the joint when it has been long diseased, formed no part of the flap. Should any unhealthy inflammatory action set in, this altered structure is liable to slough and greatly complicate the treatment of the wound. The hæmorrhage was more copious than usual, the soft parts and periosteum being extra vascular. The limb was adjusted in a manner recommended by the operator, and, up to the present time, the patient has expressed himself greatly benefited by the operation, his appetite and sleep having returned.

### DISEASE OF THE STERNUM SIMULATING ANEURISM.

The following case is one of great interest, and is still under treatment at the Hospital for Consumption, Brompton, under the care of Dr. Edward Smith.

An athletic man, aged thirty-two, engaged in a gunpowder factory, had felt palpitation of the heart, after moderate exertion, for twenty years. Fourteen years ago he had rheumatic fever during six weeks. He has at various times been much alarmed by explosions. He has been accustomed to make great muscular efforts, particularly in turning a crank or a mill, in which he had to use great effort in dragging toward himself. Whilst engaged in this violent labor about sixteen months ago he felt a sudden giving-way within the chest, and soon afterwards first perceived a bulging at the middle of the sternum.

July 7th, 1858.—There is now a bony projection, beginning about two inches from the top of the sternum, extending downwards four inches, and transversely three inches, having its highest part opposite the third rib. There is no tenderness on pressure, but the surface is red and covered with hair. He has scarcely any internal pain, but there is a sense of stretching about the sternum, and at night he feels a little throbbing chiefly on the left side. There is no purr, nor any pulsation perceptible to the touch. There is a musical blowing with the second sound over and to the left of the sternum, and a non-musical and soft murmur about the apex of the heart. The bruit is not loud anywhere, but it extends to the top of the sternum and to a wide extent below. There is a rough systolic and a feeble diastolic bruit at the apex, and there is pulsation ardent and natural at the apex of the heart and its vicinity. The pulse is 76, full, even, and regular in both wrists when sitting, and the respirations are 23 per minute. No unusual pulsation in the carotid or subclavian arteries, nor any turgidity of the veins.

The case was thus obscure, but it wore a serious aspect, and a fear was entertained lest it should be proved to be one of aneurism of the ascending aorta.

Sept. 1st.—Again examined, and presents the same symptoms.

15th.—He has had a little pain in the right

breast, and a sense of pressure on each side of the chest when lying down.

Oct. 6th.—There is more pain, and it is of a darting character; the tumor is a little larger; there is no dysphagia; his appetite is not good; and a careful examination of the lungs shows that there is lessened vesicular action. There is still a blowing diastolic sound, and it is sharper on the right of the sternum; arterial pulsation still regular. He is beginning to stoop somewhat, and there is insufficient respiration.

20th.—He has suffered somewhat more pain at night, but pain has never been a prominent symptom. There is now fluctuation perceptible at the lower part of the tumor and in the space on the left of the sternum, but there is no thrill nor pulsation there. He has experienced one or two attacks of shivering.

At this period the case became less obscure, for it was almost certain that the pulsation was due to the presence of a little fluid in the anterior mediastinum. The case was now examined by a number of Dr. Smith's medical friends, and the general opinion arrived at was, that it was not a case of aneurism.

Nov. 3d.—Still in the same state.

11th.—Dr. Smith showed the case to Mr. Fergusson, the consulting surgeon to the hospital, who regarded it as one of disease of the bones of the sternum. The patient would not permit an exploring needle to be used, as his club surgeon had informed him that he was suffering from an aneurism.

24th.—No change.

27th.—A small bladder of the size of a half a hazel-nut has formed where the fluctuation was perceptible, but no discharge has taken place.

Dec. 8th.—The health has improved, and the bladder is a little shrunken at the top.

21st.—On the 18th there was a very small quantity of clear fluid discharged, which formed a small crust; and the bladder is a little shrunken.

Jan. 5th, 1859.—The bladder is slightly enlarged, but there is no change in the condition of the tumor.

May 20th.—Still in the same state, and able to do light work.

This case is very interesting from its obscurity in its earlier stages, and shows well how guarded the practitioner should be in forming an opinion as to the nature of such diseases, and more particularly in expressing any opinion to the patient. Its march has been very slow, and unmarked by any prominent symptom, and seems to be very much independent of any control on the part of the physician or surgeon. Dr. Smith's aim in treatment was to prevent local irritation and to maintain and improve the general health, but particularly to remove the habit of feeble respiration and to cause the diminution of the vesicular murmur, which constitutes the first stage of phthisis, and tends so

frequently to the deposition of tubercle. This has been in great part effected.

#### TOBACCO-PIPE STEM IN THE THROAT.

The recent wound of the throat by a tobacco pipe, in which the carotid artery was tied by Mr. Ure, at St. Mary's Hospital, will be in the recollection of our readers. The ligature came away on the eighteenth day, and the poor man was progressing very favorably, but with the inconvenience of almost complete closure of the mouth, which had remained since the day of the accident. He was put upon a grain of sulphate of iron three times a day, with evident advantage. On the 22nd of June, he felt something in his mouth, and on introducing his two fingers withdrew the stem of the tobacco-pipe from beneath the left side of the tongue, where it had remained unsuspected and unobserved for several weeks. It measured two inches and three-quarters in length. The removal of this body permitted the mouth to open wider, and the rigidity of the muscles of the jaw to relax. No bad consequences have ensued, and as we had already predicted, a good recovery has taken place.

#### ENCEPHALOID DISEASE OF THE EPIDIDYMIS.

A lad sixteen years of age was admitted, on the 22nd ult., into University College Hospital, with encephaloid disease of his left testicle, which had grown within seven months to the size of a cocoa-nut. By the end of the next few days, it had increased nearly three inches, so no time was to be lost in its removal, which was performed by Mr. Erichsen on the 27th. The anterior part of the scrotum was red; the tumor was soft in front, but indurated posteriorly; and although the disease was extensive, the spermatic cord was unaffected. A section of the tumor showed the body of the testicle to be quite healthy, situated in the centre of the diseased mass which had originated in the epididymis. The wound was attacked with erysipelas the next day, which is prevalent just now, and temporarily retarded the healing action, but the boy is otherwise doing well.

We were present at the Middlesex Hospital on the 25th of May, when the right testicle was removed from an elderly man for the same disease. It originated in a blow ten months before, and had latterly much increased in size, until it was as large as a foetal head. For three months after the blow no great inconvenience was experienced. From the general appearance of the man, there was no doubt that he had serious internal organic disease, which would endanger his life at a later period. He has recovered from the effects of the operation. A section of the tumor showed it to be the well-known form of the disease, with the development of several small cysts. Metallic sutures were used to bring the edges of the wound together.

## NASAL CARCINOMA.

We were lately shown a patient under Mr. Coulson's care at St. Mary's Hospital, who had a carcinomatous tumor in rather an unusual situation. It occupied the left side of the nose, was oval in shape, of the size of an almond, and was partly hollowed out by ulceration. He was admitted on the 24th of June, and stated that the disease commenced about a year ago, in the form of a small pimple over the left nasal bone, which slowly increased in size, became inflamed, and then ulcerated. Various caustics were employed—amongst others, strong nitric acid—for destroying the surface, followed by the application of the concentrated chloride of zinc. It is quite possible, with perseverance and attention on the house-surgeon or dresser of the patient, in applying the caustics, that the ulcer may be got to heal. When we last saw it, it had an angry and irritable look, which had been somewhat increased during the prevalence of the great heat of the last few days.

## USEFUL PLAN OF SUPPORTING STUMPS AFTER AMPUTATION.

At Guy's Hospital for the last two years Mr. Hilton has been in the habit of supporting the stumps of amputated thighs in a manner which is worthy of notice, from its cleanliness and convenience, together with the comfort accruing to the patient. It consists in applying a short and broad splint under the stump, which is elevated at an angle of forty degrees; beneath the splint is a small cushion, and a light bandage is applied over all. This permits of examination and dressing without the slightest disturbance to the patient, the stump always looks clean and healthy. The cases in which it is at the present moment employed are the following:—

A young man, twenty-two years of age, was admitted on the 23rd March for extensive pulpy degeneration of the synovial membrane of the left knee, with incipient disease of the lungs. The former had existed for twelve months, and was making rapid inroads upon his health. The thigh was removed at its upper third on the 23rd ultimo; and when we examined the stump on the 5th instant, it had almost entirely healed, and looked remarkably clean and healthy from the way in which it was put up. The phthical symptoms have completely subsided.

A second case was that of a man, aged forty-eight years, who, as we gather from the notes of Mr. Tuck, his dresser, was kicked by a horse on the knee twenty-one years ago, causing at that time a wound over the patella. He has been subject to frequent attacks of pain and swelling ever since. Three years ago the symptoms generally increased. Seven weeks back an abscess was opened at the side of the knee, and subsequently two openings had to be made to let out pus from the joint. The bones were much diseased, and he had suffered most acute

pain. Considering his age and other circumstances, Mr. Hilton thought the most prudent course was amputation through the thigh, which he performed on the 5th instant, under chloroform. When placed in bed, the stump of this patient was carefully put up by Mr. Tuck in the manner already described, and we learn he is going on extremely well.

## TUMOR OF THE PAROTID.

When a tumor extends somewhat deeply in the parotid space, its removal is often associated with a good deal of troublesome bleeding, even though no arterial trunk of any importance may be wounded. This fact we saw again verified, on the 15th of June, at University College Hospital, in a woman sixty years of age, who had been subject to a swelling in the left parotid space for from fourteen to sixteen years. Latterly, it had become active in its development, it was increasing in size, and getting soft at its most prominent part, where the integuments were discolored. This change Mr. Erichsen believed to be simple disorganization. The tumor was movable, and one portion dipped round the ramus of the jaw. Its attachments were considered not too deep for excision. It fully occupied the parotid region, although it did not involve the parotid gland; it was as large as the fist, and was in front and below the ear. It was successfully removed, together with a small portion of the temporal muscle, but the temporal artery was unavoidably divided in the course of the operation. This gave rise to considerable hæmorrhage, which was only controlled, after the lapse of some time, by the aid of many ligatures and the application of the perchloride of iron. The tumor proved to be fibro-plastic, undergoing degeneration, disintegration, and actual calcification in that part of it which was situated behind the ramus of the jaw. On the second day after the operation, she was attacked by erysipelas, and was in a precarious state for some days, but she is now slowly recovering, and the wound is fast closing.

Some weeks back, Mr. Quain removed a tumor from the neck of a woman aged about thirty-four, which had been growing for fourteen or fifteen years. She was pregnant at the time, but this did not prevent the wound from healing very rapidly. She was subsequently discharged from the hospital quite well.

## DOUBLE FISTULA IN ANO, TREATED BY A SINGLE DIVISION OF THE SPHINCTER.

Although at first sight it may seem to be a trifling matter, whether one or more divisions of the sphincter ani muscle be made in cases of complicated fistula about the anus, in reality considerable importance should be attached to it if the future comfort of the patient is considered. There can be no doubt whatever, as we heard Mr. Fergusson remark, at

King's College Hospital, on the 2nd instant, that if there are two or more divisions of the sphincter muscle, subsequent union does not permit of such an amount of control over its functions as when one only is made. Being aware of the truth of this from experience, he treated the case of a young woman, who had what might be called a double fistula, in the following manner:—Three years ago she had an abscess in the perinæum, which burst externally at the margin of the anus; probably a second formed, which also burst externally, but the two cavities merged into one. This aperture, on examination, was found not to communicate with the rectum, and was, therefore, what is called, in surgical language, a *blind external fistula*, with a double opening. Instead of running a bistoury through the sphincter in two places, as we have seen done by some surgeons, Mr. Fergusson divided the skin between the fistulae, and laid open the cavity to which they were the outlets. He then cut through the sphincter nearest the upper fistulous opening, in the usual manner, and the wound was carefully dressed from the bottom. Thus, by a very simple proceeding, the case was converted into one of ordinary fistula in ano.

The practical surgeon will at once recognise the benefits to be derived from an avoidance of multiple divisions through the sphincter ani.

#### FIGURE OF THE ANUS.

One of the most painful affections situated in the neighborhood of the anus, is a fissure alongside of the sphincter. When examined, scarcely any lesion is to be detected; but on rendering the structures tense, a very small slit with reddened margins may be observed, and from which there may be a little secretion. This apparently trifling malady occasionally causes the most intense agony. Latterly, several examples have come under Mr. Hancock's care at the Charing-cross Hospital, which have been effectually cured by the division of a few of the muscular fibres of the sphincter at the situation of the fissure. It is unnecessary to divide the entire sphincter in the treatment of this affection, and it is now seldom resorted to. On the 2nd instant, this operation was repeated by Mr. Hancock on a woman twenty-seven years of age, whose sufferings had been very great for nearly twelve months, from the presence of a fissure of the kind mentioned. On passing her motions the sensation was compared to that of a knife running through her. When we saw her on the 7th, five days after the operation, she expressed herself as completely relieved; all pain had gone, her health had generally improved, and she was beginning to assume a cheerful aspect. Patients with a fissure of the anus have a careworn and anxious expression of countenance, more so than is observed in fistula of the bowel; but it quickly disappears when surgical relief has been obtained.

#### IDIOPATHIC PYÆMIA.

Pyæmia in an idiopathic form is extremely rare, but recovery from it is still more so. An undoubted example of this form of disease, however, was recently pointed out to us at Guy's Hospital, in a female, aged twenty, under Dr. Wilks's care, who had been an inmate six weeks and was on the eve of discharge, cured. She had been ill a fortnight before her admission with inflammation of both elbow-joints; the right knee then took on the same morbid action, and became moderately swollen. Whilst in hospital, suppuration occurred in both elbow-joints, with especial implication of the left. This was followed by a well-marked attack of pyæmia, the symptoms being unmistakable. She was treated by tonics, liberally supported with wine, &c., and recovered from it. The joint symptoms have likewise disappeared; the pus has become absorbed, but the left elbow still remains very tender. It is a fact of interest in this case, that the pyæmia commenced when the matter formed in the joints, and yielded as the effusion became absorbed.

#### ASTRAGALOID DISEASE.

A man was sent up from Cornwall with disease of the ankle-joint of two years' standing, for which he was admitted into University College Hospital. In the treatment it became a question whether excision of the ankle should be performed, or amputation above it. There were some circumstances favorable for the former; thus all the bones were healthy, except the astragalus and malleolar arch, and possibly also the astragaloid surface of the os calcis. This was determined by examination through several sinuses leading in different directions. On the other hand, there were considerable disorganization of the soft parts, and extreme laxity of the structures around the joint, particularly the ligaments. These were unfavorable for excision. The man himself was willing to submit to excision if he could be assured of its success, but was averse to a long residence in the hospital. Mr. Erichsen, therefore, determined to amputate the leg, which was done on the 1st of June. The astragalus was found carious on both sides, the malleolar arch was rough, and the cartilages replaced to a considerable extent by plastic material. An abscess was present at the outer side of the ankle, and the soft structures were much thickened. The disease, no doubt, commenced in the astragalus. The articulating surface of the scaphoid bone was also affected; there was some mischief at the upper end of the os calcis, but the cupoid bone was sound.

Four weeks afterward we found the stump perfectly healed, excepting a little opening in the middle, and the patient was out in the fresh air seventeen days after the foot was taken off. This satisfactory termination has been effected at an earlier period than excision would have permitted.



We have lately seen three cases of disease of the foot, in which the mischief was solely confined to the os calcis. These were in-patients under the care of Mr. Cock at Guy's Hospital, of Mr. Holt at the Westminster Hospital, and of Mr. Ure at St. Mary's, respectively. Gouging away the necrosed portion has proved successful in all three.

#### SUPPURATION OF THE KNEE AND POPLITEAL SPACE.

Taking the surgical wards of our hospitals collectively, the most common affections presenting themselves for treatment are cancers, and diseased knees and ankles. The great majority of amputations of the thigh are for disease of the knee-joint. Many patients are sent up from the country with such maladies, in the hope of saving their limbs. The last example of the kind is now a patient in University College Hospital—a man, thirty-six years of age, from Herefordshire, who was admitted on the 9th of June, with disease of the knee-joint of two years' standing. It was now filled with pus, and a separate abscess was present in the popliteal space. The disease originated spontaneously, with weakness and pain, the symptoms not becoming active until last Christmas, after the exertion of over-walking. The joint became swollen, the synovial membrane was full of fluid, and the patella was floating. There is now some amount of grating of the ends of the bones, with pain; and, from the peculiar appearance of the limb, there is no doubt that the joint is full of pus, in addition to an abscess, separate from the articulation, in the popliteal space. As the patient's general health was good, Mr. Erichsen, after taking all the circumstances of the case into consideration, excised the joint on the 14th ultimo, removing the patella, together with the ends of the bones. The disease affected the articular structures rather than the osseous, and the case was thus favorable for the operation. Besides, the patient was most anxious to save his limb at any risk. There was a very large quantity of lowly-organized plastic material around the synovial membrane the greater part of which was removed. The most profuse suppuration followed the operation, and the patient was eventually attacked by pyæmia, and died about a fortnight afterwards. This makes the second fatal case in eight of excision of the knee which Mr. Erichsen has performed.

#### EXCISION OF THE KNEE.

This operation we again saw performed at King's College Hospital, on the 2nd inst., by Mr. Fergusson. The patient was a delicate looking lad, between fourteen and fifteen years of age, who has had disease in his left knee for nearly three years, which had run its usual course, and for which he had undergone all the usual modes of treatment. For a time his health remained good, but latterly he has suffer-

ed a good deal, and there was an indication of impending serious mischief unless something was done to afford relief. Mr. Fergusson looked upon the disease as beyond cure; the limb would have been condemned to amputation by most surgeons. It was a fair case for this proceeding, but Mr. Fergusson believed it a still more favorable one for resection, because the patient was young, and healthy in all other parts of his body. This operation was therefore performed, and the articulating surfaces of the two large bones removed with the patella, all of which were diseased, but especially the synovial membrane. A large abscess was present above the patella—a common occurrence in disease of the knee-joint. Two counter-openings were made in consequence, and two pieces of lint were passed through them to promote suppuration. The flaps of the wound were then brought together by metal sutures. Comparatively little blood was lost.

#### FEMORAL NECROSIS AND DISEASE OF THE KNEE.

A stout, healthy looking, man, aged forty-four was admitted into Guy's Hospital with an affection of the knee-joint. Fourteen months previously the disease had commenced with intense pain near the lower end of the femur, which became slowly enlarged and ultimately necrosed. Abscesses formed above the knee, which burst externally, and left sinuses leading down to dead bone. The tissues around the joint became thickened, as did also the bone itself. Secondly, the knee-joint became involved, and active interference was called for. Mr. Birkett at first contemplated taking away a piece of the dead bone, but, as the joint was implicated, such a proceeding would have been useless. Moreover, the head of the tibia was partially dislocated backwards, the patella was fixed, and the limb unserviceable. He thought, also, that the patient would not be able to go through the process of cure if resection were performed; and it was probable, too, that the necrosed condition of the femur extended for some inches above the joint. He therefore, on the 14th of June, amputated through the thigh, as the best means of relief. As anticipated, the shaft of the femur contained a sequestrum of dead bone, and the knee-joint was too extensively and generally diseased for any other means to have proved so serviceable as those adopted. The stump is healing kindly, the man's health is good, and nothing, so far, has occurred likely to retard his recovery. The patient who is a carpenter, was sent up from the country for operation.

#### ACUTE STRUMA OF THE ELBOW-JOINT.

Affections of joints, which are strumous in their character, are generally chronic and of long standing. The reverse of this, however, sometimes is the case, when the strumous inflammation has been so active as to bring the parts into as advanced a state of disease as if it

had been existing for years. A young man, of florid aspect, nineteen years of age, was admitted into St. Bartholomew's Hospital, with strumous disease of his left elbow of but twelve weeks' duration, and which commenced without any evident cause. The joint became generally swollen, as in disease of the synovial membrane, abscesses formed and were opened after his admission, and fistulous openings now extended all around and within the joint. From the rapid progress of the disease, Mr. Paget thought it not likely to terminate favorably without operation, and resolved to excise the ends of the bones at once. This proceeding was effected on the 25th ult., under the influence of chloroform, and the articulating surfaces of all three bones, together with the diseased synovial membrane and much plastic material, were taken away. The bones themselves were not actually diseased, but their cartilages were much destroyed, and the disease was chiefly confined to the synovial membrane. The time since the operation is too short to warrant an opinion as to the ultimate result, but we will keep the case in view.

As offering a striking contrast to the above, we may refer to another case, which was submitted to operation at St. George's Hospital, on the 30th of June. A young man had his right elbow so very much swollen from chronic disease (of three years' standing) as to resemble malignancy. He had been in the German Hospital some weeks, and had a large abscess opened near the joint. The arm was amputated by Mr. Cutler; and when the joint was examined it resembled a mass of loose jelly; the bones, cartilages, and soft structures generally, were quite gelatinous, but no evidence of actual struma was present. The infiltration of lowly-organized plastic material was most complete.

#### BRIGHT GREEN SPOTS ON A MULBERRY CALCULUS.

The examination of a large number of urinary calculi will show the variety of color which their external coats assume, independent of their peculiar shape and size. We do not remember to have seen any of a distinct green color, which might depend upon any organic change taking place within the bladder itself. On the 4th of June, however, we were present at the Charing-cross Hospital, when the lateral operation for stone was performed by Mr. Canton upon a little boy, nine years of age, who had suffered from the symptoms of calculus for twelve months. When extracted, the stone proved to be a mulberry, of a brick-red color, three-quarters of an inch long, boot-shaped, and coated with some three or four bright-green spots. This last circumstance at once invested the case with some interest, for here was a new urinary deposit not before observed, and one very difficult of explanation. To the naked eye, and even with a glass, the green spots seemed distinct coatings upon the calculus. Amongst other things examined, to clear up the mystery of these spots, was the syringe employed to inject the bladder,

the interior of which instrument was found encrusted with verdigris. The calculus was placed for a short time in vinegar, and the spots entirely disappeared, thus showing their origin. The record of this case may furnish the sequel to many of the rarities which come under the notice of the pathologist.

#### RELAPSE IN TYPHOID FEVER, FROM INCREASED DIET.

Dr. Graves has observed, in his lectures on "Clinical Medicine," that in the treatment of long fevers, it is important for the physician not to let his patients die of starvation. This is a maxim of too much value to be overlooked; yet, again, he states that great discrimination is required in the choice of food, for although the patient should not be allowed to starve, it is essential not to run into the opposite extreme; for if so the stomach will be overloaded, and serious consequences produced, such as a relapse of the fever, gastro-enteric irritation, or actual inflammation. It is by no means unusual in the treatment of fever, when convalescence has become established, to allow of moderately increased diet with advantage, but sometimes this liberty is abused by the patient himself. A striking instance of this came under our notice at Guy's Hospital on the 31st ult. A man, twenty-four years of age, who was admitted, under Dr. Wilks's care, on the 23d of May, with typhoid fever, accompanied by the characteristic rose-colored rash, became convalescent; and although his diet was increased, he carried his feeling beyond what it should have been, and the consequence was a relapse of the fever, with a recurrence of the rash. He is again convalescent, but weak, and is allowed suitable and regulated diet. We have heard some practitioners declare they have gratified their patients with whatever they desired, and in any quantity they pleased. But such practice is to be condemned, and the rational physician will hardly fall into so grave an error. Dr. Graves refers to the case of a young lady who ate some beef-steak, contrary to his orders, at an early period of convalescence from fever. She relapsed almost immediately, and died of enteritis in thirty-six hours.

#### EXTRACTION OF A THERMOMETER-TUBE FROM THE URINARY BLADDER.

An immense variety of foreign bodies have been found in the bladder, both of males and females. Hair, beans, fruit-stones, ears of corn, portions of bougie, nails, bullets, small bones, pins, needles, string, stalks of flowers, &c. &c. are amongst the substances enumerated by Mr. Coulson, in his work on the Bladder (chap. xix.), as having been extracted from this viscus. If allowed to remain, they easily form the nucleus of a stone. On the 22nd of June we witnessed the extraction of a thermometer tube from the bladder, at St. Mary's Hospital. The patient was a young man, aged twenty-two, ad-

mitted under Mr. Coulson's care on the 20th June. He had for many years been subject to nocturnal emissions, and, after a long course of doctoring, he resorted to the expedient of introducing a glass thermometer-tube along the urethra and into the bladder, as a species of *im promptu bougie*. He accomplished the introduction successfully, although not without difficulty; but on attempting its withdrawal the glass tube broke and a piece remained in the bladder. Its presence did not cause any considerable inflammation; he suffered little pain, and micturated without difficulty. There was no urgency to pass urine; but after the bladder was emptied he experienced pain in the peritoneum, but not of an acute character. There was a slight admixture of blood with the urine. He was a nervous and somewhat weakly subject, and under the influence of spermatophobia. Mr. Coulson operated as in lithotomy, and removed the piece of the tube entire, so as accurately to fit the other portion. The piece extracted measured between three and four inches in length. Some little difficulty was experienced in drawing it, owing to its being placed across the neck of the bladder. But little blood was lost. The patient has progressed uninterruptedly towards convalescence. We may observe that, in cases, besides the testimony of the patient and the general symptoms, the foreign body could be detected by the introduction of a sound.

#### CANCER OF THE TONGUE: REMOVAL BY THE ÉCRASEUR.

The *écraseur* has become almost obsolete in London hospital practice. We have ever looked upon its use as an unsurgical proceeding. Like every other novelty, it has had its trial, and it will soon be altogether laid aside, unless in some very exceptional surgical maladies, in which the risk of hæmorrhage may again require its aid.

On the 21st of June, a man, of about forty-five years of age, with an epithelial cancer on the left side of the tongue, of four months' growth, had it removed in the Westminster Hospital by Mr. Brooke by means of this instrument. The cancerous mass was of the size of a walnut. The centre of its base was pierced with a large needle, and the chain of the *écraseur* drawn through it. The left half of the tumor was very rapidly divided by the instrument, and then the other half, thus taking away the entire disease in one piece, leaving a healthy surface behind. There was not much bleeding, although one or two small vessels required to be tied. The patient was fully under the influence of chloroform whilst undergoing the operation, and since its performance he may be said to have been going on very satisfactorily. Mr. Brooke stated that his reason for using the *écraseur* in preference to the knife was to avoid the hæmorrhage, which would not be so great by thus tearing the vessels asunder by this instrument.

#### RUPTURE OF THE SPLEEN.

When rupture ensues of any of the solid abdominal viscera—such as the liver, the spleen, or the kidney—death usually takes place in a short time from hæmorrhage, if the shock of the injury itself has not already proved fatal. It is not always an easy matter to make out the true nature of the mischief in such cases, especially when no external evidence of injury is to be seen. A curious case in illustration was admitted into University College Hospital, on the 13th ult. The patient was a man upwards of sixty-five years of age, who was accidentally knocked down in the street by a cab, and trod upon by the horse over the stomach, as was at first supposed. He lived twenty-two minutes after his admission, under Mr. Erichsen's care, the cause of death being set down either to the shock of the injury or to the rupture of some important internal organ. He was totally unconscious from the time of the accident to his demise, and never spoke a word. We were present at the autopsy, on the 14th, made by the house-surgeon. A large quantity of liquid blood was found in the abdomen, which, on careful examination, was observed to have come from the spleen, which was greatly torn, and had a cavity in its substance nearly as large as the fist. Several of the ribs corresponding to the situation of the spleen were broken. It is very remarkable that with such serious injuries not the slightest wound or bruise could be detected on the skin.

#### EXTREME CASE OF RICKETS.

A very exaggerated case, in which the lower limbs only have been affected with rickets, is at the present time under Mr. Curling's care at the London Hospital. The patient is a very intelligent-looking little girl, nine years of age, who was admitted about a month back with fracture of her right thigh. This was the second fracture in the same thigh, the left having also been broken on a former occasion. The recent fracture has united without the application of any splints; in fact, it was quite impossible to apply them, owing to the deformity of the legs, both of which, at their central parts, are bent forwards at a right angle, whilst the ankles and feet incline towards each other to a sufficient degree to compensate for the deformity existing in both tibial bones. The thighs are also flexed, but to a less extent. She has been in the habit of crawling about on her hands and knees, although some months back she was enabled to move about on her feet. The upper extremities and trunk, from the pelvis upwards, seem to be normal. This is one of the most extreme cases of lower limb deformity which we have noticed for some time.

## PRIVATE LUNATIC ASYLUMS.

The deleterious influence of a vicious principle is never so forcibly or so painfully demonstrated as when it involves a great reputation. A single great example strikes more than a thousand of every-day character. For many years the Lunacy Commissioners and the Legislature have been contending against the abuses inherent in the system of private asylums; and hitherto that system has in a great measure preserved its vitality, owing to the high personal and professional esteem in which a few physicians connected with it are held. The public instinct has long revolted against the trade in lunatics; and we have never ceased to repudiate it as one incessantly in conflict with the rights of individual liberty, and as degrading to the members of a learned profession. It is our firm belief that had not physicians and surgeons of eminence been associated, directly and indirectly, in this line of business, the system would long ago have disappeared from the land. No one would have believed that it was either necessary or safe to commit the custody and care of insane persons to the exploitation of private speculators. No one would have thought it rational to expect any great solicitude for the recovery and liberation of a patient who was bringing in to his keeper a considerable net annuity, to last so long as his patient or prisoner continued insane.

We have expressed our opinion that the entire profession was suffering deeply from the false position in which some of its members were placed in regard to this question, and shown that those gentlemen who held the double position of physicians and asylum proprietors had no right to complain if the public declined to analyze their composite character, or to allow the respect attaching to a profession to serve as a plea for dispensing with those securities which experience has proved to be necessary against abuses incident to the trade. We are, therefore, unable to support the Association of Medical Officers of Asylums in their indignant remonstrance against their proposed disqualifications to sign certificates in lunacy. We believe that the case made out by Lord Shaftesbury in vindication of that clause is unanswered.

If any doubt remained in the mind of any independent member of the profession as to the expediency—nay, the necessity—for that clause, it must surely be dispelled by the perusal of the case, Ruck *versus* Stillwell, which seems to rise up for the express purpose of illustrating and enforcing our observations. In this case the great question turned upon the certificates by authority of which Mr. Ruck was confined. We may pass over the subsidiary question as to the sanity or insanity of Mr. Ruck. Admitting that he had been insane, he might still be improperly confined and detained. The law requires that two medical certificates, drawn up

under certain conditions, shall be held by the asylum proprietor as his authority for the reception of a patient. By the actual law, medical practitioners who are proprietors of asylums, or who stand in particular relationship to proprietors, and the regular medical attendants of asylums, are ineligible to sign these certificates. It is superfluous to say, that these restrictions were enacted with the view of securing that the medical man signing a certificate should have no possible interest, or suspicion of interest, in the confinement of the patient. The proposal was made by Mr. Wakley, in the House of Commons, and that section of the Act was especially framed with a view to the protection of the public. But we are of opinion that it is calculated to fulfil another purpose, one of the highest importance to the medical profession. It tends, if properly observed, to maintain the public credit of the profession, by removing from our body the imputation that we enter upon this most responsible function actuated by any other than the purest sense of professional duty. Looking at the matter in this light, the profession at large is especially benefited by this enactment. It concerns us to maintain that position inviolate. And if the restrictions are not sufficient for that purpose, then must they be extended. Lord Shaftesbury, who has had abundant experience of the working of the plan, has come to the conclusion that the existing restrictions are not sufficient; and an absolute disqualification is proposed of all medical practitioners who are interested in asylums.

The case of Mr. Ruck illustrates completely the argument of the Chairman of the Lunacy Commissioners. He contends that an asylum physician signing a certificate consigning a patient to the house of another proprietor may still have an interest extraneous to his professional duty. If, for example, he recommends a patient to a proprietor one week, the compliment may be returned to him the next. And this reciprocity places all proprietors more or less in the light of partners. There is therefore no remedy but to exclude the certificates of proprietors altogether. Mr. Ruck, it is known, was confined for ten months in Dr. Stillwell's asylum, Moorcroft House, under an order by his wife, and certificates signed by Dr. Conolly and a Mr. Barnett, a surgeon who, it is alleged, was not in actual practice. Under a commission *de lunatico*, it was declared that Mr. Ruck was of sound mind. He was consequently discharged from the asylum. Notwithstanding this verdict, it might still be true that Mr. Ruck was insane at the time of his being sent to Moorcroft House; and he might have been legally confined. Mr. Ruck has, however, disputed both these positions. Is an action for damages against Dr. Stillwell, he adduces evidence to show that, although he was laboring under delirium tremens, accompanied by delusions, his disease was not of a kind to justify seclusion as a lunatic. Of course opinions may differ upon this point, and probably none

deserve more respect than Dr. Conolly's. It ought, however, to be observed that the attempt to discredit the testimony of the hospital physicians and surgeons in favor of Mr. Ruck, by the suggestion that, not being lunacy doctors *par excellence*, they were not competent witnesses, is peculiarly misplaced. These gentlemen enjoy opportunities of training their minds to a diagnostic judgment between delirium tremens and the various forms of mental disturbance and insanity which can scarcely by any possibility fall to the lot of the special alienist. But this plea of Mr. Ruck, that he was not insane, may be put aside as really not pertinent to the issue before the Court.

Were the certificates legal? He might have been insane, and yet these might have been invalid; and this is proved to have been the case. Mr. Barnett's certificate was assailed on the plea that he was not in actual practice—a qualification expressly required. This negative position was, of course, very difficult to prove. The objection to Mr. Barnett's certificate therefore broke down. But Dr. Conolly's certificate was successfully attacked. It was proved to the satisfaction of the jury that he was, if not a proprietor of Moorcroft House, at any rate a regular medical attendant, and therefore that he was disqualified from signing a certificate for the reception of a patient there. The detention of Mr. Ruck on his certificate was held to be illegal, and the jury awarded damages to the extent of £500.

It may not unfairly be asked, Why did not the Lunacy Commissioners—usually punctilious, and properly so, in these matters—challenge these certificates in the first instance? They were of all persons the best qualified to decide, and had official cognizance of the certificates upon which Mr. Ruck was secluded. If they did not know—what was brought out on the trial—that Dr. Conolly was actually receiving a commission of fifteen per cent. not only on the payments made for Mr. Ruck, but also on the payments made for about eighteen other patients in Moorcroft House; if they had no reason for holding him to be a partner, they could hardly have been ignorant of the fact of his being a regular medical attendant. We forbear from asking how it was that Dr. Conolly should commit so singular an oversight as to expose himself to this charge. For the defence no witnesses were called, so that Dr. Conolly did not have the opportunity—from which he certainly would not have shrunk—of explaining his conduct. That he has acted throughout from a conscientious sense of honor and duty we are anxious to express our sincere conviction; but that he has acted in a manner calculated to compromise the dignity of the profession in the public mind, and to lower in the public esteem a reputation dear to us all, is painfully evident. That he has done this, is a lamentable example of the pernicious influence that an evil system can exert over the best and wisest of men.

That Dr. Conolly, receiving from £700 to £800 a year as commission, or as professional fees, from this asylum, may, notwithstanding, sign an honest certificate, no one will doubt. But these restrictions are not aimed at such men as Dr. Conolly. They are intended to protect the public and the profession against the too probable abuses of men of a more ignoble stamp; and not even the eminent abilities, the splendid services, nor the high character of Dr. Conolly, can justify him in setting the example of disregarding them. And since it is now demonstrated, by this case, that the existing restrictions are insufficient, the expediency of disqualifying all persons connected with private asylums from signing lunacy certificates in any case is amply established. For the sake of the profession, we say, as well as for the public good, such a scandal should not recur.

One other point in this unhappy case we feel called upon to notice. The Commissioners seek to have authority to learn from asylum proprietors what payments they receive for the care of their patients. This the proprietors resent as an infringement of their private rights—as an espionage into their private affairs, forgetting that he who holds a fellow-creature in custody may justly be held accountable for all the inducements under which he exercises that authority. Had the Commissioners in this case possessed the power they ask for, and which will no doubt now be conferred upon them, they would have seen that Dr. Stilwell was receiving £400 a year for the care of Mr. Ruck; and that this provision was so much in excess of any reasonable remuneration that he was able to allow Dr. Conolly a commission of £60 a year out of it. Speculators who undertake the public duty of taking the custody of their fellow-citizens for profit, have no just ground to plead a private right in bar of any security for good conduct which the public may demand.

Want of space precludes us now from further comment. We can only, while expressing our regret that the evils of the present system of private speculation in lunacy should have received so painful an illustration, declare our conviction and our satisfaction that this trial will, by the exposure of those evils, facilitate the immediate enactment of measures to mitigate them, and hasten the advent of that epoch when the detention of the insane shall be no longer a private, but a public care. At the same time, justice demands that vested legal interests should be strictly protected.

#### CIVILIZATION AND PAUPERISM.

Amongst the many ingenious and suggestive problems discussed by that veteran and discursive *littérateur*, Thomas de Quincey, is one which, when heard stated for the first time, and consequently unconsidered, must, no doubt,

startle many persons. This problem is,\* *that a pauper population is a disease peculiar to the modern Christian world*; and that, although pauperism is not a recent accident in the constitution of states, but an indefeasible necessity, for "the poor shall never cease out of the land," yet there is good reason for believing that it slumbered, and was meant to slumber, until Christianity, arising and moving forwards, should call it into a new life as a principle suited to a new order of things. Certain it is, as de Quincey has remarked, that great expansions of pauperism did not exist in the ancient world; and it is not very difficult, moreover, to point out one of the chief causes of its comparatively slight development under the social systems of the old nationalities, and, conversely, its prominence under a new state of things. The cause to which we would here refer is, on the one hand, the slight value attached to life, and the interception of the births of a surplus population, amongst the ancients; and, on the other hand, the protection of the principle of life as a mysterious sanctity by Christianity, and hence the production of an excessive population. The whole Pagan world escaped the evils of a redundant people by vicious repressions of the latter beforehand; whereas Christianity fosters the redundancy, but authoritatively enforces the recognition of its accompanying pauperism upon the maternal guardianship of the State. Even in our day, amongst those nations still governed by social systems nearer in character and complexion to those of olden than of the present time, no such pauper population exists as we are accustomed to see. As De Quincey says, it is *now* in Persia as it was everywhere before. A Persian ambassador to London or to Paris might boast that in his native Iran no such spectacles existed of hunger-bitten myriads, as may be seen everywhere during seasons of distress in the crowded cities of Christian Europe. "No," would be the answer, "most certainly not." But why? The reason is that your barbarous form of society and government *intercepts* such surplus people—does not suffer them to be born. What is the result? You ought in Persia to have about fifty millions of people; your vast territory is easily capacious of that number, whereas all that you possess is something less than eight millions! If *that* be a good state of things, then any despot who makes a wilderness is entitled to call himself a great philosopher and public benefactor. We, on the contrary, luxuriate in the production of life, and, when once produced, we protect it by the most stringent and sumptuary laws. Hence our surplus, hence our wondrous pauper populations. But, breeding the disease, we find the cure. Extending the vast lines of poverty, we lay down the principle of its relief—viz., that a Christian State must assume its

official tutelage, and own as a vital necessity the making of charitable provision for it as an indispensable element of civil rule. Hanging upon the skirts of this great domain of pauperism is found a class neither starving but for charity, nor yet prosperous. Its social status is equivocal, its employments often repulsive or dangerous, and its earnings small or only doubtfully secure. Want makes it often savage, necessity constantly criminal. The sharpened and cunning intellects of its members—pariahs though the latter be to educated society—lead them to adopt measures not less ingenious than desperate to better their means; and if men have to struggle for their very life, for self preservation, all their being is absorbed in this one effort. It would appear to be Nature's law, and man must submit to it. The person whose daily sustenance is a matter of deep and hourly anxiety, will have his thoughts so fixed upon this one object as to be daunted by no trifling intervention to its satisfactory attainment. Pauper he cannot or will not be; but subsist he must, and to compass such end he will often trample upon that very law of the mysterious sanctity of life, of which we have before spoken—a law which is then saying to him: "All shall live; we cannot let you starve; see, here is bread." But he will sooner sacrifice either his own or the life of others than accept of charity.

These thoughts suggested themselves to us as we scanned over lately one of the Reports of the Board of Works, of the Whitechapel District.\* In this Report, our attention was attracted by the following statement:—

"The Friendly Societies Act, which was passed in 1855, requires, before any money is paid, a certificate of the cause of death, in every instance, from a qualified medical practitioner. This is a valuable provision for ensuring skilful medical aid, and there can be no doubt but that it will tend to diminish the great mortality of children which now prevails in all our large towns. In this district the mortality of children under five years of age is about forty-five per cent. of the total deaths, after deducting the deaths of the non-resident adults. This large mortality of young children need not surprise us when we see how they are neglected by their natural guardians (perhaps from necessity), and left to the care of other children, little older than those who are entrusted to them, while the mothers are engaged at work."

We confess that we are still less surprised when we reflect how many of those children who die have been each entered at some half-dozen "burial societies." The medical certificate, too, we fear, only touches one half of the evil here indicated. To bury a corpse is, to anybody, but especially to the needy, a costly undertaking. The latter grudge the expense.

\* Essays Sceptical and Anti-Sceptical, or Problems Neglected or Misconceived. Eighth Essay, "Greece under the Romans." Vol. viii., p. 325, of de Quincey's collected works.

\* Report on the Sanitary Condition of the Whitechapel District, for the Three Months ending April 2nd, 1859. By John Liddle. Read to the Board May 10th, 1859.

naturally enough, as it appears to them they gain so little for it. This class, nevertheless, indignantly rejects the offer of the parish to give the relics of its relatives Christian burial. Hence arose "Friendly Societies," the members of which help each other. Of a hundred children, for instance, only a certain percentage will die within a given time *in the ordinary course of mortality*. But who knows which children shall make up that percentage? Let, then, each child be entered at 5s. to make a common fund, and there will be £25 annually from a hundred children. That sum will bury many of them. Here was an "infant burial society," by which, for a few shillings annually, the parent of the child who died could secure for it a funeral without expense to him. But some members of such a society would be urged by the wants of neediness to ask themselves the question—why not enter their children at a dozen societies?—one insurance would pay for the funeral, and the others they could put into their own pockets. But to make such procedure of avail to a needy person it must cease to be a speculation, and become a certainty. If the child entered at some half-dozen societies would die naturally, well and good; but if it would not, it must die by some means, or the insurers would be dreadfully out of pocket. The latter could have no honest pretext for wanting more than one funeral for one child; or at any rate the chances which were played at would form a source of terrible temptation to one of the *classe dangereuse* under pressure of poverty and need. Hence it was that we were startled a few years ago by the announcement that three thousand children were annually burned to death under circumstances showing too clearly that they had been left with the means and the temptations to set themselves on fire. Medical investigation at that time showed that in one well-known agricultural district, as also in some large manufacturing towns, the atrocity of entering children at several burial clubs, and then poisoning them, had not been of unfrequent occurrence: hence the "Friendly Societies Act," alluded to by Mr. Liddle in his able report. But whilst this act prohibits any money being paid to the insurer of a life except on production of a special medical certificate, certifying that the insured died from natural causes, and not from injury, poison, &c., such certificate could not show that these "natural causes" in the case of children arose *naturally*. Systematic neglect and exposure—the artificial appliances of wet, cold, hunger, bad diet, and disturbed sleep, to the frail constitution of children, might too often, severally, produce the event desired—an event which would appear to be, and really was in *one sense* of the term, the result of natural causes, though these latter in themselves were brought into operation *most unnaturally*. Hence, in the case of children, we fear that the medical certificate does not and cannot easily prevent the majority of insurers

from qualifying themselves for claiming the funeral allowances. There is such a thing, too, as letting a sick child die, even when not entered at a burial society, as of course is the case with the majority. It is one person less to feed—one less to spend time upon, when both food and time are already wanted, to many times their amount, for the sustenance and necessities of others. But when the loss of that one will not only cease to take from, but actually add to, the common stock, a temptation to neglect and cruelty arises, which all men, alas! are not capable of withstanding.

#### THE MEDICAL SOCIETIES.

The session of the Medical Societies closed on Tuesday, the 28th ult. As usual, the pages of THE LANCET have contained full and accurate reports of all their proceedings. Our readers are, therefore, in a position to determine how far these institutions have fulfilled the objects for which they were established. The past session, undoubtedly, has not been behind any of predecessors in practical value. Many papers of great interest have been read and the discussions upon them have, at least, been of the average importance.

It cannot be denied, however, that in the Medical and Chirurgical Society some of the papers have been too lengthy, and, occasionally, too scientific for practical discussion. To elicit the observation and experience of others, a paper should be so condensed as to enable the hearer to carry its main points fully in his recollection. Long and tedious essays on a single case, or a single form of disease, preceded by an elaborate historical detail, and encumbered with numberless references, fail to elicit those practical remarks from experienced members which, in reality, ought to form the staple of the proceedings of any Society established for the furtherance and improvement of practical medicine. The tendency of the present time is rather to elaborate than to convince; to spin out into unreasonable length the facts and deductions to be drawn from the experience and reflections of the author. It was not so in old times—in the palmy days of the two great Societies of London, the Medical and the Medico-Chirurgical. Place in contrast a volume of the "Transactions" of the Medico-Chirurgical Society of forty years ago with one of the present time. The comparison, in a practical sense, cannot be said to be in favor of the latter. This fact is sufficient to explain the difference between the discussions of former years and those which prevail at present. Formerly they were entirely practical and confined *ad rem*; and now, though in the main they are instructive and valuable, they are too often speculative and theoretical. On the whole, however, it must be admitted that the Societies in general have, during the past session, conferred important benefits upon the practice of medicine.



The Medical Society of London has sustained its reputation as being the House of Commons of the profession. The branch Societies, together with the Epidemiological, have unquestionably done much to entitle them to public approbation. The Obstetrical Society, one of a thoroughly practical character, has been marvellously successful, and has rallied to its standard such an army of recruits, that it will probably in a short time be the largest medical Society in London.

In the course of the past year, the Fellows of the Medical and Chirurgical Society were placed in a peculiar and an embarrassing position. Certain of them were of opinion that the gentleman who now occupies the chair was not entitled to that honor. It was admitted upon all hands that he was a surgeon of eminence—that he was selected by the Council in rotation; but inasmuch as he has practiced medicine, and that, too, often in special cases, in a peculiar manner, and had thereby broken down the limits which they thought should exist between *pure* medicine and *pure* surgery, he was not entitled to be president of the Society. The LANCET, ever jealous of the honor of the profession, waited with anxiety for the proofs of unprofessional conduct upon the part of the gentleman in question. These proofs were not forthcoming, and we therefore felt it our duty to support an individual against whom nothing but general insinuations were advanced. So acted an enormous majority of the Society, and Mr. Skey was installed into the office of president, amidst the general applause of a most numerous and influential meeting. It would have been a misfortune and a reproach to the Society had the result been different.

In the Medical Society of London, a total change in the governing body has taken place. This change was effected in a manner and by means which were calculated to give just offence to many of the most influential Fellows of that body. We trust, however, that the efficiency of this Society will not be diminished by this temporary disagreement; and that in the ensuing session steps will be taken to reconcile all parties, and thus retain the Society in the position which it has so long enjoyed, as one of the most useful bodies of the kind in this or any other metropolis.

#### RUCK VERSUS STILWELL.

We desire to direct the attention of our readers to the letter of Dr. Conolly, in reply to our remarks on the case of Ruck v. Stilwell. It is needless to say that all that fell from us was controlled by the deepest respect for a man who has done so much for the insane, for humanity, and for his profession. Our animadversions were all pointed against the system which Dr. Conolly upholds, and which, were it not upheld by such names as his, could not, we are convinced, be long maintained. Under existing circumstances,

we know that private asylums are necessary; but we do not, like Dr. Conolly, despair of seeing a better order of things established. We do not entertain the same dread of associating laymen of station and influence in the administration of asylums. These may now and then resist or even harass the medical superintendent in what he conceives to be his duty; but we believe it is right and fitting that a responsibility so great as the holding in custody a portion of our fellow-creatures should be shared and guarded by independent members of the community. Notwithstanding the failure of the attempt made by Lord Shaftesbury, Mr. Tite, Dr. Conolly, and others, to found a public asylum for the middle classes, we see encouragement enough in Scotland, and even in England, to justify the hope that this system may be gradually extended, and ultimately prevail. We differ from Dr. Conolly, when he says that "the general suspicion of interested motives must always remain attached to institutions, as well as to men, in which or by whom anything whatever is done for profit or for payment." The case of a public asylum is widely different, as regards this suspicion, from that of a private asylum. In the former case, as no individual need derive a direct interest from the detention of a patient, it cannot be imagined that he is kept for the benefit of the institution; besides the scale of payments might be so regulated in relation to the cost incurred as to offer no inducement of the kind. No such exorbitant annuities as are sometimes paid to private asylums need be received by a public institution; and certainly no fees or commission would be allowed out of the annual payments to medical attendants or others for recommending patients. Holding as we do the perfectly independent position of spectators, we repeat our deliberate conviction that the system still unfortunately advocated by Dr. Conolly is fraught with mischief and discredit to the medical profession.

Regarding the justice of the confinement of Mr. Ruck, we now offer no opinion. His sanity or insanity is not relevant to the question. Looking to evidence and authority, we should even be inclined to adopt the conclusion of Dr. Conolly upon this point. But we cannot help remarking that the expressions used by Dr. Conolly imply that Mr. Ruck was sane, in the legal and moral sense, when he effected his discharge. To denounce Mr. Ruck's conduct towards Dr. Stilwell as "vindictive," "unjust and revengeful," is to assign to him the attributes of judgment and responsibility.

The full realization of our hopes for the establishment of institutions where the detention of the insane shall not be made a source of profit by the detainers may be long deferred: but we see in this the stronger reason for maintaining in the greatest state of efficiency those checks which are necessary to control the abuses inherent in the present system.

## FACTS AND THEORIES.

It was an aphorism (how many times quoted!) of the great Cullen, we believe, that there were more false facts than false theories in medicine. We presume most persons would think the same as regards other departments of human knowledge. We, however, are getting rather sceptical of the truth of this axiom, finding that in controversial and doubtful matters the *facts* generally turn out to be correctly enough laid down, but that the *views based upon* these facts are all erroneous. A forcible illustration has just come before us, on perusal of some "Answers to Written Questions addressed to Miss Nightingale by the Commissioners appointed to inquire into the Regulations affecting the Sanitary Condition of the Army."\* This philanthropic lady entered the General Hospital at Balaclava in April, 1856, at a time when there was by no means any pressure of duty. The first night she found from ten to twenty of an Irish regiment talking and drinking in the "extra diet" kitchen, and a quantity of extra bedding and clothes cumbering the wards instead of being in store. Under the beds and under the mattresses were the patients' private clothes, large boxes, carpenters' tools, wood, coal, dusters, brooms, stones used in cleaning the wards, boots, shoes, and slippers; these things being ingeniously concealed by the bed-clothes. One patient, suffering from frost-bite, who subsequently died, had not been moved for a week; and so, being unable to leave his bed and having been neglected, he dragged on his life in a state sufficiently horrible. In going at night over the wards (of which seven were in the building, and fourteen were huts), not a single orderly was found perfectly sober in the huts, and one or two in the building not sober either. On the same day that Miss Nightingale went on duty, an "excellent second-class staff-surgeon" did so too, and he "immediately set to work to introduce real order and cleanliness." Now these were *facts*, and not false ones; let us see what theoretic purpose they subserved. Two days after this commencement at reform, the "principal medical officer" of the army visited the hospital, without requiring the staff-surgeon in charge (who could have explained appearances) to accompany him; and on the subsequent day the principal medical officer censured this staff-surgeon for "the state of dirt and disorder" (which was in reality the removal of dirt and disorder) in which he had "found the whole establishment." The truthfulness of the facts which here met the principal's eyes was not to be gainsaid; but the views based upon these facts, how utterly erroneous, and painful to the feelings of an honorable man! Discipline required, we presume, that *somebody* must be found fault with, and, therefore, the sooner and easier it was accomplished the better. It may strike some persons, of course, that so long

as the facts are true, it little matters what the views based upon them really are, so that they make a tolerable appearance in seeming to answer the required purpose. For instance, the conversion of "under the beds" at Balaclava into a back kitchen is admirably paralleled by a custom common to many military hospitals at home and during peace. We learn, for example, that although the "outside of the platter" is sometimes licked tolerably clean for inspection, the inside of the pantry—or what shall we call it?—is in a pretty pickle. This pantry is the bed from under the mattress of which an inquisitive visitor, like Miss Nightingale, might pull out the dirty linen; and from under the pillow the patient's tobacco, his pipe, (sometimes lighted,) his clasp-knife, dirty shirt, spoon, and towel, if he has one. Should the existence of such a mare's-nest be too patent to the medical officer,—well, reader! we hear you say, he must confiscate them. So he does, it appears; for we are informed that he orders the hospital sergeant to "take them away, well knowing that *neither he nor the patient has anywhere else to put them!*" But, as a well-known character in one of Mr. Dickens' fictions would say, "Discipline must be maintained," and there's an end of it. The contrasts, however, in a soldier's experiences are usually believed to be considerable. Nor do we find that the commissariat department of the great institution of which he is a member has been at all desirous to render them less perplexing. As we have seen, at one time the soldier has

"Pots and pans,  
Kettles and cans,  
But nowhere on earth to put 'em;"

at another, he has places for everything, but can get nothing to put into them.

"A soldier is expected by our regulations almost to furnish his own hospital, with some slight assistance from the barrack department. Now, at Scutaria we had neither barrack department nor soldiers' kit, for the men had to abandon their kits, as is well known, and did not recover them till a later period. The consequence was, that when we, on two successive occasions, opened newly-repaired divisions of the barrack hospital to an influx of some hundreds of patients, there was no furniture whatever in the wards but the beds; and all utensils, whether for eating and drinking, taking medicine, cleaning, washing, or other purposes, were deficient. There were, also, neither chairs, tables, benches, nor any other lamp or candlestick but a bottle. In January I mentioned this to the then principal medical officer, and he answered, 'I perceive you are not aware that these things are found by the barrack department.' I also mentioned it in the presence of the Inspector-General to the Purveyor-General, and he answered that he did not intend to supply the things, having no warrant to that effect, which was true."

\* Notes on Hospitals, &c. &c. By Florence Nightingale. pp. 108, and four plates. London: Parker. 1859.

This reminds us of the story of the man who, being observed to sit dry-eyed during an effective sermon, while the rest of the congregation was in tears, gave as an explanation that "he belonged to another parish." How "parochial," then, must be the feeling of a commissary who feels no more interest in the wants of a sick soldier than in supplying him with an empty bottle!

A model purveyor purveys according to his "warrants," whilst the soldier wants according to his circumstances. The absurdity lies in attempting to provide for the contingencies of the soldier in war—an abnormal state—by the non-expensive rules which may govern him in peace—a normal state:—

"The fear of being called a 'troublesome fellow,' to my positive knowledge, deterred medical officers from making repeated requisitions for articles which they knew to be necessary for their men or for repairs, because they feared that such conduct would injure their prospects. This will be denied; but it is true for all that."

During the first seven months of the Crimean campaign, there occurred a mortality amongst the troops at the rate of sixty per cent. per annum, solely from disease. This is a rate exceeding that of the "great plague" in the population of London. During the last six months of the war, the mortality amongst the *sick* did not much exceed that of the healthy guards at home; while for the last five months, the mortality was two-thirds only of what it was amongst the troops in Britain. Now, this wonderful change, constituting, as Miss Nightingale calls it, "the most complete experiment in army hygiene," was not brought about by overcoming the difficulties of the prevailing *system* as a system—for this was not overcome at all—but by a violent expenditure, and the relaxation of all rule. As a principle, the deficiencies which existed and operated so detrimentally at first, would have still continued to do so, according to the system; for the great want of comforts, necessities, and such like, did not arise so much from the non-existence as from the non-supply of the stores. This system, being nothing but a "clash of departments," was purely negative in its results. For instance, a question of hospital repairs was found to pass from the medical officer to the purveyor, thence to the principal medical officer back to the purveyor, thence to the quartermaster-general's department, then to the commandant, and finally to the department of engineers; the propriety of the repairs being ultimately decided upon, without any appeal to the chief officer—namely, the surgeon in charge, who saw his patient suffering from a leaky roof, without the means of redress. Thus, then, to obviate the continuance of the lamentable consequences which at first arose, the *system* was broken through by personal responsibility, private interference, and the demands of the public.

These practically did away to a great extent, for the time, with the custom of written requisitions, checks, and counter-checks, and which seem to have been invented for the purpose of saving money, instead of that of saving the life of the sick and wounded soldier. This unlucky mortal no sooner entered an hospital, than he became the property of *nine departments*—he was a member of quite a German *bund*.

"Before a patient could eat his dinner in the Scutaria general hospitals, it had to be manufactured through the medium of the commandant, who assigned the orderlies and cooks; of the engineer's department, who repaired the kitchen; of the purveyor, who supplied a portion of the food; of the commissary, who, through the contractor, supplied bread, meat, and fuel; and of the soldier himself, who supplied out of his own kit some of the utensils for eating and drinking."

Now the whole of this unwieldy and expensive system the shrewd and philanthropic lady whose evidence we have quoted has shown to fail in both of its objects.—viz., of saving money and of saving soldiers. And it necessarily fails both ways; because the lives of men are of more money value to the country than any saving in such matters can ever by any possibility be; and because it actually wastes money: for the clerk system and check system require such a staff as to cost far more than would the additional supplies. In the evidence before us a simpler and far more efficient management is proposed, along with many other improvements, which, if adopted, must prove of not a little benefit to the service, as well as to two classes of men—medical officers and patients—whom it has hitherto been the fashion to render thoughtlessly subservient to absurd departmental regulations.

#### MR. TURNER'S ADDRESS AT GUY'S HOSPITAL.

Sundry inaugural addresses to medical students are being prepared. The occasion is not inopportune for again drawing attention to the admirable discourse of Mr. Turner, the Treasurer of Guy's Hospital, delivered at the opening of last session. We believe that in the association with those of other professions in the conduct of our great hospitals and medical schools the medical profession enjoys the best security for its just influence with the public. It is impossible for men of intelligence to share in the administration of our hospitals, to witness the laborious and conscientious course of study pursued in order to make a medical practitioner without acquiring a more accurate and generous appreciation of the solid basis of facts, of observation, of experience, and science, upon which Medicine reposes. They cannot fail to become impressed with the elevating character of a study in which every energy of the mind, every appliance of science, is directed to the pursuit

of truth. By observing through what self-denial, what physical labors, what risk of health and life, the earnest medical student and the hospital teacher resolutely pursue their duty, the surest conviction must be acquired of the nobility and integrity of the true medical character. We are certain we do not err when we say that it is through association of this kind, in which laymen of candid and informed minds partake, as it were, the toils and anxieties of the student and teacher of Medicine, that the profession has found its best and most powerful friends. The great enemy that Medicine has to contend against is ignorance. If charlatanism flourishes, it is mainly because the mass of the community are strangers to the principles upon which Medicine is founded. Many look upon it as a mystery, and are hence prepared to accept the wildest impostures. But the man of education, who follows the career of the physician from the moment he first applies himself to the study of physics, of chemistry, of the structure of organized beings, and of the phenomena of life, to the systematic observation of the reactions of external agents upon the functions of the human frame in health and disease, knows how to estimate at their true value the spurious hypotheses of quackery, the vain dreams of ignorance and fraud.

We are sure we are rendering service to our profession by dwelling upon this topic. The discourse of Mr. Turner abounds with proofs of the beneficial influence of the communion of thought between men of different professions. Thus he quotes an observation made by Dr. Mayo, the President of the College of Physicians. "Remarking," he says, "that it is the business of the advocate to contend for the success of the side, whether right or wrong, on which he may happen to be retained—that the divine, though employed indeed in the inculcation of truth, has to deal only with what is already revealed and ascertained,—it is the honorable distinction and privilege of a student of medicine to be engaged through life in the pursuit and *exploration* of truth—in the acquisition and *extension* of knowledge. And assuredly," continues Mr. Turner, "there can be no more noble study—none more elevating to the understanding, or better fitted to refine or purify the heart, than the investigation of the works of Him who has stamped the whole creation with the impress of His power, His wisdom, and His love." But the medical man has the further gratification of reflecting that he is not merely an explorer of truth, but a dispenser of its benefits; that it is his occupation to apply his knowledge to the service of his fellow-creatures. The reflection that naturally springs up in the mind of such an observer is, that the science which he sees is the culminating point, the end of all that minute study of nature, must be true. He will not easily believe it possible for an honest or intelligent man to have diligently wrought in the pursuit of those fundamental

branches of knowledge, as physics and natural history, the accurate character of which the layman can appreciate as well as the physician—and where, indeed, the layman and the physician are often found working together,—to forsake those habits of rigid analysis, of strict regard to evidence, of respect for truth, which these studies encourage, in order to cultivate a false science, to the detriment, not the benefit, of his fellow-creatures. To spend the best years of life in the laborious pursuit for truth in order to practise error, implies an inconceivable depravity. It is at once a libel upon human intelligence and morality, to imagine that the cultivation of truth can be a preparation for a career of fraud. It is therefore an object of the highest benefit to mankind, as well as to the medical profession, to invite members of all classes of the community to assist in witnessing the labors and in administering the affairs of our great institutions for teaching and practising medicine.

We have on a former occasion referred to Mr. Turner's excellent vindication of the advantages of *viva-voce* instruction. His discourse is replete with sound reflections upon the principal topics of interest in the conduct of medical education. No veteran in surgery or medicine could enunciate more impressively the importance of anatomy. The learned lecturer, rightly beginning here, as the immediate basis of all medical knowledge, says:—

"It is altogether impossible for you to attach to much importance to the study of anatomy. Whether your ultimate views be directed to the practice of medicine or surgery, *if you aim at being anything more than mere empirics or quacks*, it is indispensable that you should have a thorough, intimate, and familiar acquaintance with every part of the structure of the human frame. You cannot bestow too much labor upon the acquisition of this knowledge; you cannot take too great pains to preserve and keep it up."

Well would it be if these views, so clearly seen and forcibly expressed, were generally entertained. Here, in fact, lies our crucial test of sound medical pretensions, our decisive means of exposing the knavery of charlatanism: Satisfy us that you have by earnest and diligent labor acquired an intimate acquaintance with the complex structure of that organism the disorders of which you profess to cure.

There is another point—necessarily passing over many others—in this discourse, which again aptly illustrates the beneficial impressions that, sharing in the administration of a medical school, work upon men of education and discernment. He is struck not less clearly with what may be called the market-place fallacies of professional indolence than with the vain dogmas of charlatanism. Cautioning his young auditors as to the temper in which they should pursue their studies, Mr. Turner advises them

constantly to strive to attain accuracy and precision in their ideas. "Don't be content," he says, "with hearing and repeating general phrases,—such as 'shock to the system,' 'general debility,' and so on,—but always endeavor, as far as may be, to get to the bottom of what they mean—to understand the physical conditions which they represent."

Amongst the endless topics involving some present or permanent interests of our profession that are constantly claiming our attention in these pages, it rarely happens that we can afford space for more than a cursory reference to an introductory address. But we have so strongly felt the important advantages of associating members of all classes in the great task of medical education is a subject which has hitherto received but little attention that we are sure no better service could be rendered than by again inviting the reflections of our readers to this address of Mr. Turner. We venture to say, that in not one of the numerous discourses that that will be delivered by our professional brethren in October next, will be found a truer appreciation of the foundation, of the scope and aim of medicine; in none a more generous estimate of the claims of the practitioners of medicine; in none, more acuteness of perception, more solidity of reasoning, more elegance and force of language.

#### SANITARY CONDITION AND CONSTRUCTION OF HOSPITALS.

That there is much difficulty in arriving at correct statistical comparisons, by which the relative sanitary conditions of various hospitals may be truthfully determined, is a statement no one can gainsay. As some of the reasons for this difficulty we may point out the facts, that whilst certain diseases are more fatal than others, different institutions receive very different proportions of such diseases. The ages of the patients of one hospital will differ, perhaps, considerably from those of another, and the states of the cases upon admission may vary very much at each place. Further, the best hospital statistics only give the mortality which has taken place in the hospitals, and afford no data as to those cases discharged in a hopeless condition in greater numbers from one hospital than from another. Moreover, a serious source of error arises from incurable patients discharged from one institution, to which the deaths should be accounted, and who are received into another hospital, where they die a few days, perhaps, after admission. But in spite of these sources of fallacy, in working out an important question of hygiene, we find that there really is a great difference in the aspect of analogous cases as regards their duration and their termination in different hospitals. This difference, it seems, had so prominently intruded itself upon Miss. Nightingale, in the course of her experience both in civil and military establishments for the

sick, that she instituted a close inquiry into the various constructions and administrations out of which she conceived this difference mainly to spring. She could not be mistaken that the difference existed, for it had struck minds who were not at work upon this subject as she herself had been; the master, *e. g.*, of some large works in London affirmed that he was in the habit of sending those of his workmen who met with accidents to two different metropolitan hospitals; that in one they recovered quickly, and in the other they were frequently attacked by erysipelas, and sometimes he lost his men. Now, as Miss Nightingale well observes, the origin and spread of fever in a hospital, or the appearance and spread of hospital gangrene, erysipelas, and pyæmia, are generally much better tests of the defective sanitary nature of an infirmary than its mortality returns. But, apart from both these kinds of data, there is another class of facts, which to so experienced and acute a mind as that of the lady in question, would strongly speak of the general adaptation of an institution for the reception and treatment of the sick. To use her own words:—

"One insensibly allies together restlessness, languor, feverishness, and general *malaise*, with closeness of wards, defective ventilation, defective structure, bad architectural and administrative arrangements, until it is impossible to resist the conviction that the sick are suffering from something quite other than the disease inscribed on their bed-ticket: and the inquiry insensibly arises in the mind,—What can be the cause? . . . I have known a case of slight fever received into hospital, the fever pass off in a week, and yet the patient, from the foul state of the wards, not restored to health at the end of eight weeks."

The result of her inquiry into the cause of these daily—almost hourly—changes which take place in patients, lengthening the whole process of cure, whereby the sick, instead of making quick recoveries, are retained week after week, or, perhaps, month after month, in hospital, this philanthropic and acute investigator laid before the Liverpool meeting of the National Association for the Promotion of Social Science in Oct. 1858. The "papers" have now been collected, and go, along with other matter, to form a volume,\* small it may be in bulk, but of great importance in scope and character.

The four radical defects in hospital construction which are here made patent to us are,—

1. The agglomeration of a large number of sick under the same roof.
2. Deficiency of space.
3. Deficiency of ventilation.
4. Deficiency of light.

With respect to the first point, it is shown that, other things being equal, the amount of

\* Notes on Hospitals; with Evidence given to the Royal Commissioners on the State of the Army in 1867. pp. 168. London; Parker.

sickness and mortality on different areas bears a ratio to the degree of density of the population. All experience tells the same tale, both amongst the sick and amongst the healthy. So convinced, indeed, have those nations become of this fact, who formerly collected the greatest number of sick together under *one roof*—viz., France and Belgium, that they have lately commenced separating their hospitals into a number of distinct pavilions, each block containing generally not more than 100 sick.

Relative to the second defect, we have pointed out to us, that deficiency of cubic space is confounded by unskillful sanitary statisticians with surface-overcrowding in towns, although the things are quite different, and lead to different results. In civil hospitals the amount of cubic space varies between 600 and 2000 cubic feet per bed. In some military hospitals it is under 300, and from 700 to 800 appear to be considered a somewhat extravagant allowance. In fact, as Miss Nightingale forcibly expresses it, "The army regulation as to cubic space in hospitals is overcrowding;" and her experience leads her to affirm, that "under all circumstances, the progress of the cases (in solidly-built hospitals) will betray any curtailment of space much below 1500 cubic feet. In Paris, 1700, and in London, 2000, and even 2500 cubic feet are now thought advisable."

As regards "deficiency of ventilation," it may be said that the want of fresh air may be detected in the appearance of patients sooner than any other want, and that no care or luxury will, indeed, compensate for its absence. Miss Nightingale is strongly opposed to all *artificial* modes of ventilation, maintaining that "natural ventilation, or that by open windows and open fireplaces, is the only efficient means for procuring the life-spring of the sick—fresh air."

Second only to fresh air, in this lady's opinion, is the importance of *light* for the recovery of the sick; and she calculates that all hospital buildings in this climate should be erected so that as great a surface as possible should receive direct sunlight—a rule which has been observed in some of our best hospitals, but which, it would appear, has been passed over in some very recently erected. She is of opinion that there should be one window to at least every two beds, though some foreign hospitals, in countries where the light is far more intense than in England, give one window to every bed.

We have not space to enable us to touch, in detail, upon the several causes in the usual ward construction which prevent these great conditions essential to the health of hospital inmates from being attained. They are so important, however, that we must name them. They are as follows:—Defective means of natural ventilation and warming; defective height of wards; excessive width of wards between the opposite windows; arranging the beds along the dead walls; having more than two rows of beds between the opposite windows; having windows

only on one side, or having a closed corridor connecting the wards; using absorbent materials for walls and ceilings, and washing floors of hospitals; defective condition of water-closets; defective ward furniture; defective accommodation for nursing and discipline; defective hospital kitchens and laundries; selection of bad sites and bad local climates for hospitals; defects of sewerage; construction of hospitals without free circulation of external air. Not the least important of Miss Nightingale's teachings are, the practical illustrations which she brings before us of the good and bad hospital structures being carried on at the present day. We have four plans laid before us—two English and two French—which are taken as representing the degree of constructive ability directed to the planning of hospitals in the two countries. Upon these, as also upon the intended alterations at St. George's Hospital, we shall make some remarks in a future number of this journal.

#### THE MEDICAL REGISTER; THE SEALED BOOK.

After infinite labor, the Legislature passed an Act, the great object of which is to distinguish authoritatively the qualified from the unqualified practitioner in medicine. It was meant that all the world should know, by easy reference to the State Medical Register, who was fit to be entrusted with the care of the public health, and who was not. After nine months' gestation, the Medical Register is born,—and we may add, still-born, strangled with red-tape in the act of parturition. By an act of dense stupidity, the vitality of the Register is destroyed; its usefulness utterly choked, and the Medical Act itself virtually abrogated. The Medical Register is said to be published. But, in truth it is a sealed book. To bring out a Register, and charge *seven shillings and six pence* for it to those who have already been amerced in the sum of two pounds for the privilege of being entered in it, is a proceeding not less unjustifiable than absurd. To such an extent is the principle of forbidding any one to consult the book carried out, that even booksellers are denied the discount usual in the trade. The Medical Council, or its Executive Committee, has by this incomprehensible restriction, imposed the most efficient check upon the circulation of its work that could be devised. Thousands of practitioners and others in the country are in the habit of instructing their booksellers to forward what books they want, and by the medium of booksellers' parcels, the Register, like periodicals and other works, could be most conveniently distributed. But for some reason, difficult to divine, the Council seems bent on checking the sale: and, therefore, compels every one living in the country, and, we may add, many also in town, to be put to the trouble of sending a post-office order. Thus the actual cost of the book is eight shillings and fourpence,

whilst the booksellers would—had the ordinary course of business been observed—have supplied it for the published price.

We feel bound to state, that the Medical Council has altogether mistaken its duty, if it supposes that it is authorized to make a profit, and add to its revenue, from the sale of the Register. The principal object of the Act is to give the widest possible diffusion to its Register. There should be no difficulty in consulting the book in every town, village, and hamlet in the kingdom. Every practitioner, every club, every public office, every magistrate, every hotel, should possess a copy. The restrictions imposed, however, must necessarily limit the circulation to the narrowest possible bounds.

The Council has probably received from the medical practitioners of Great Britain not much less than £20,000. It would have been a wise and just act to have presented each registered practitioner with a copy of the Register without charge. In any case there can be no pretence for demanding more than the actual cost of the work.

#### THE INCOME TAX.

The practitioners of medicine, in common with their brethren in other professions, are again threatened—notwithstanding repeated engagements to the contrary—with a renewal of the most iniquitous and odious provisions of the Income Tax. Quite unprepared, relying upon the express promises of public men, our professional brethren will suddenly be called upon to pay nearly a double tax upon their hard-earned incomes. In spite of all former protestations, the men who labor for their bread—who toil for the State—who devote many weary hours, at the cost of health and often of life, to the service of the poor—are called upon by the Ministry to contribute, in the same proportion as the richest landed proprietors, whose incomes have been realized for them by the toils or good fortune of others. We are threatened with a perpetuation of that grossest injustice—the denial of all equitable adjustment between incomes arising from real property and those derived from actual labor. It is not to be expected, after the manner in which the House received the proposal of the Minister, that the oppressiveness of the tax he so coolly doubles will make any impression. But the opportunity is an excellent one for testing the sincerity of Mr. Disraeli and those other members of the House of Commons who have declared their conviction that the present monstrous inequalities in the incidence of the Income Tax ought to be removed. Will they now at this critical juncture, not only protest against, but resist to the uttermost, the present flagrant breach of public faith, and strive for the relief of the precarious labor income?

#### Reviews and Notices of Books.

*On the Influence of Variations of Electric Tension as the Remote Cause of Epidemic and other Diseases.* By WILLIAM CRAIG, Licentiate of the Faculty of Physicians and Surgeons, Glasgow, and Consulting Surgeon to the Ayr Fever Hospital. pp. 434. London: Churchill.

The author of the present work endeavors to establish the following propositions, namely:—

“That nervous power can be substituted by electricity to produce, not merely simple muscular action, but also the more vital and internal operations.

“That the nervous system necessarily depends on the ingesta for the material of which it is composed.

“That it is shown whence are procured the supply and the source of the power by which nervous action is produced.

“That diseased action is produced by an abstraction of nervous power, and consequent derangement of the corporeal operations.

“That cholera . . . arises from a low state of electric tension . . . [which] causes abstraction of nervous power, and produces enervation of the capillary system, and inverted action of the bowels.

“That yellow fever . . . that plague has its origin from the same instrumentality, operating, however, less powerfully.

“That intermittent fever . . . has the same origin as the previously mentioned disease.

“That fever on board ship is caused by continuous evaporation, and consequent low state of electric tension.”—p. 434.

There are not many of the *facts* brought forward by Mr. Craig in his dissertation which we should be disposed to cavil at; but as regards the *views* based upon those facts, and with which he has favored us, we at present must decline giving in our adhesion to them. Upon many important and interesting points in the history of the hygienic causation of epidemic maladies, Mr. Craig's treatise may undoubtedly be referred to with considerable profit.

*An Essay on the History, Pathology, and Treatment of Diphtheria.* By EDWARD COPEMAN, M.D., Physician to the Norfolk and Norwich Hospital, Lind Hospital for Children, &c. pp. 48. Norwich: Stacy.

The important subject of diphtheria is rapidly skimmed over by the writer of this pamphlet. He has put together the observations and details of the history of the disease, which have been given to us by Bretonneau, Rilliet, and Barthez, and other French writers. As we have already had several opportunities of studying the records of these writers, and our author adds little that is new, we cannot say that our perusal of the essay has added much to our previous



knowledge of this fatal disease. But to those who value a compilation of this kind, we may commend the work. The statement made at page 6, that the Greek author, Aretæus, gave the year 1557 as the earliest date at which this disease took its place in a system of nosology, is, of course, an extraordinary typographical blunder.

We conceive that the mild cases of tonsillar exudation in children, which are said to be curable by the simple application of alum, are not diphtheria at all. Many misconceptions prevail as to the latter disease, which, however, are not corrected by the author. The membranoid exudation is not plastic nor fibrinous. It is frequently non-inflammatory. It appears to issue from the mucus follicles of the fauces in the first place; from those of the larynx and air-passages in more advanced and dangerous cases. It is not so much a local affection as a blood disease. Death but seldom occurs from the suffocation engendered by the former, more often by the asthenia produced by the effect of the poison on the constitution. Thus, local and caustic applications, though important, are by no means solely to be relied upon. The free use of wine and stimulants may be demanded, if we wish to save the patient from dying of exhaustion.

*Human Anatomy Questions and Answers for the Use of the Medical Student.* By MEREDITH REDMAN. 2 vols. fcp. 8vo. Lincoln: Ackrill. 1859.

Though opposed generally to books of this description, which are calculated to give the student merely a superficial knowledge of the subjects upon which they treat, they may occasionally be of service in assisting him, if well grounded, in answering questions. As an assistance to such a necessary part of the student's requirements when under examination, these little volumes are undoubtedly worthy of commendation. The Questions are essentially of a practical nature, and are calculated to help the pupil in a legitimate manner—a commendation which we cannot bestow on many works of a similar character. But no book of the kind, whatever its merits, can safely be recommended, except as an *auxiliary* to the labors of the student in the dissecting-room and at the bedside.

*Third Annual Report of the State of the United Lunatic Asylum for the County and Borough of Nottingham,* 1859.

The number of patients under treatment in 1858 at this institution amounted to 361, of whom 36 were discharged recovered, the same number relieved, 4 not improved, and 26 died; leaving at the end of the year 259.

"The admissions were generally of an unpromising character, when the conduct of the patients, and the threefold frequency of physical causes acting in the production of the disease, as compared with the moral, are taken in-

to consideration. 32 are stated to be both dangerous and suicidal, 21 suicidal, and 35 dangerous to others—or 88 out of 114. From this it may be inferred that in the majority of cases, the fear of the patient committing some criminal act operated as the stimulus for his consignment to the asylum, rather than the paramount duty of placing him under treatment with a view to recovery during the early stages of the malady."

From a copious table, embracing the years from the opening of the institution in 1812 to 1858 inclusive, we find that the admissions had amounted to 2842 in the 46 years, of which the readmissions were 426—namely, 227 males and 200 females.

On the important subject of the increase of insanity, the following passages occur in the Report:—

"The average annual number of admissions thirty years ago was 28; during the last five years it has been 64,—an increase of 128 per cent. in one generation. The general population in this country has increased only 44 per cent. during the thirty years preceding the last census."

The following are statistics of the forms of insanity admitted into the asylum in 1858:—Cases of acute mania, 49; chronic mania, 24; puerperal mania, 2; monomania, 2; melancholia, 26; dementia, 4; idiocy, 2, imbecility, 5.

The analysis of the recoveries in the year is curious. Of the males, 14 were married, and 7 single; of the females, 10 were married, and 3 single. 8 of 9 recoveries in cases supposed to have been caused by intemperance were in males; there was only 1 recovery in a female. Religious excitement and the fear of poverty had caused melancholia in two females; pecuniary troubles in 3 males had led to melancholia in 1 case, and mania in the 2 others; and in 10 cases the insanity had been hereditary.

*Lehrbuch der Geschichte der Medicin und der Epidemischen Krankheiten.* Von Dr. H. HAESER, Professor zu Greifswald: Zweiter band. Geschichte der Epidemischen Krankheiten. Zweite Vollig umgearbeitete Auflage, Erste Abtheilung. pp 368. Jena, 1859.

The present treatise forms the first portion of the second volume of the second edition of a work of some little reputation upon the history of medicine, and of epidemic diseases. The part before us relates to the latter class of maladies, the history of which it carries up to the "English sweating sickness" of the latter part of the fifteenth and the earlier portion of the sixteenth centuries. As this is the only section of the work we have as yet received, we must defer a more lengthened notice of Dr. Haeser's labors until we have more fully become acquainted with them. But we shall be quite safe in saying that, if we may judge of the whole by the

specimen upon our table, the author presents the profession with a very able *résumé* of much learning and research.

*Biographical Memoir of the late Thomas Hawkesworth Ledwich, M.R.I.A., F.R.C.S.I., Surgeon to the Meath Hospital, &c. &c. Dublin.*

This pamphlet is a reprint from the *Dublin Quarterly Journal of Medical Science*, and presents us with an eloquently-written memoir of a most honorable, and amiable man, and one of the most successful teachers of the Dublin school. To him the students of the metropolis of Ireland are indebted for great improvements in private teaching. On this head the author says :

"Supported by his able colleagues, he now matured his plan for placing on its proper footing private professional tuition. Classes became conjoined with the school. In these, under his guidance, and through his questioning, the student learned to develop his reasoning by the study of principles, and to try his knowledge, as well as to refresh his memory, by the discussion of those anatomical or surgical facts which had either formed the morning's observation, or were capable of elucidation."

So long as private teaching takes such high ground, so long will it be of the utmost advantage to the student in medicine. Mr. Ledwich was as successful as a lecturer at the Original School of Medicine as when imparting private tuition.

"As a reviewer and essayist, few, at so early an age, have manifested greater ability; . . . and his medical reviews may be fairly pronounced as amongst the best extant."

Mr. Ledwich brought out, in conjunction with his brother, an original work on "Human Anatomy," which is highly prized throughout the profession; nor did his merits remain unrewarded, as his professional success was great, and he had the honor of being chosen as the successor to Sir Philip Crampton at the Meath Hospital.

In private life we find, says the author of the Memoir, that "though his ability was exalted, it was surpassed by his virtue." Such men fully deserve the esteem and lively sympathy of all their professional brethren, and are well worthy of such a touching tribute as the one contained in this highly-interesting Memoir.

*On the Treatment of Internal Aneurism by the Method of Valsalva.* Being a paper read before the Surgical Society of Ireland, March 26th, 1859, by THOMAS BRADY, M.D. T.C.D., Medical Attendant of Government Prisons, &c. &c. pp. 20. Dublin: Fannin.

To Dr. Brady thanks are due for exhibiting in a proper light a not unimportant question in the history of medical practice. Many years back, the author had satisfied himself, from a

careful examination of the original authorities, that the mode of treatment which so long obtained currency in the modern schools of medicine, under the sanction of Valsalva's name, was not really the method Valsalva had recommended, and which he and several of his contemporaries believed they had employed with success. The public statement of this, afterwards made by the author, was received with distrust, and even rejected as incredible. The paper before us aims at placing the question before the profession in a final manner. We feel bound to admit that Dr. Brady has proved to our satisfaction that the method of Valsalva and Albertini differs in some important respects from that which has been followed in their names. For the nature of that difference, and for the character of the literary investigation by which it has been substantiated, we must refer the reader to the author's very opportune little *brochure*.

*Hæmorrhoids and Prolapsus of the Rectum; their Treatment by the Application of Nitric Acid.* By HENRY SMITH, F.R.C.S., Surgeon to the Westminster Dispensary. pp. 46. 8vo. London: Churchill.

This little monograph is very well written. Dr. Houston was the first practitioner who proposed the use of nitric acid for internal hæmorrhoids. Mr. H. Smith in addition advocates the practice of employing it in prolapse of the rectum. He contends that the use of nitric acid for hæmorrhoids is superior to the operations of ligature and excision in numerous cases, of which he gives instances. As indicating his opinion on the suitability of the same remedy in prolapse, we may quote the final paragraph of his treatise :—

"It is not necessary for me to relate more cases, as those detailed show that prolapsus of the rectum may, as well as internal hæmorrhoids, be cured without any other operation than the judicious employment of nitric acid. It is quite surprising to see the extraordinary comfort which one or two applications of this agent will give to patients who have been suffering years of misery. It will supersede the use of those atrocious pessaries and supports which patients every now and then bring out of their pockets to show us, and which, independently of being very injurious from the dilatation of the gut caused by them, are excessively nasty things, and chiefly calculated to amuse old women and hypochondriacal men, who have nothing else to do but to attend to the state of their bowels."

*A Handbook of Hospital Practice.* By ROBERT D. LYONS, K.C.O., M.B. &c. London: Longman.

The few preliminary years which the student of medicine passes at the bed-side in the hospital, are those which determine the character of his subsequent career. If he acquire the habit of really investigating the history and progress of a select series of cases in the hospital wards,

he will lay the solid foundation of future skill and capacity. The diligent clinical student becomes the accomplished physician and trustworthy practitioner. The listless loungeur, who haunts the wards at intervals, and gazes formally at the cases, as part of a prescribed ceremonial, learns no more from them than he would from casting his eye over the binding of his books, and fails to secure for himself the first elements of success in subsequent practice.

To smooth the difficulties which the study of disease offers to the inexperienced, and to facilitate the systematic investigation of clinical facts, Dr. Lyons now presents to us an introduction to Hospital Practice which lays down a simple methodized plan of clinical observation, combined with brief but explicit instructions as to the best method of procedure for investigating any given case. To this is added, a capital compendium of that preliminary information which the student must possess in order to rightly interpret and use the knowledge acquired by himself or communicated by the clinical observations of the surgeon and physician.

To this undertaking Dr. Lyons has brought peculiar fitness, acquired in a long series of clinical pathological labors, of which the most notable are detailed in his "Crimean Blue-book." Guided by the experience of a varied and extensive field of clinical research, Dr. Lyons has produced a handbook well calculated to supply the practical wants of the student. The order of clinical examination adopted is "the natural," as opposed to "the scientific." Some useful forms for reporting cases are appended, which are more complex than the student will usually need to employ. The chapter on Post-mortem Examinations is especially complete, much more so than some of the earlier sections on Percussion and Auscultation, where, amidst a good deal of somewhat confused detail, we do not recognise the firm and clear directions of the practised teacher.

As a whole, this work may be recommended as a valuable companion to the student in the ward, and especially in the post-mortem examination room.

*General Debility and Defective Nutrition; their Causes, Consequences, and Treatment.* By ALFRED SMEE, F.R.S. &c., pp. 98. London: Churchill.

This is the oration which was delivered before the Hunterian Society on the 9th of February of the present year. It comprises many judicious remarks on the state of that constitution which is so frequently observed in the inhabitants of towns, and on those faults of diet and modes of living which tend to produce or foster it. We confess we could well have spared the introduction of the very original and very eccentric views on physiology for which the orator takes credit to himself. Thus, in p. 11, he tells us that he considers the essential structure of the body to be a "double voltaic nervous circuit," and regards the other struc-

tures and organs as subservient to this arrangement. As this crotchety notion of a thinking man being a sort of electric machine is not shared by the rest of the scientific world, we are glad that the author does not further obtrude it on our notice. Enough for the present that he allows the necessity of a charge to his nervous battery in the shape of a constant supply of healthy blood. He proceeds to give a chemical history of the materials of the food out of which this is formed and sustained. He tells us some home truths about the necessity of bodily exercise:

"The higher classes of this country, in hunting, shooting, fishing, and in the agricultural pursuits for which they are so renowned, take the necessary muscular exercise; the lower have it in excess; whilst the middle, who pride themselves upon being the power of the country, neglect muscular exertion and the exercise of the mind far too much, for the one absorbing passion of getting money from those with whom they trade, to make a show among those with whom they live."—p. 32.

The experience of many will support Mr. Smee when he states that out of 300 consecutive patients who applied to him for advice, 221 exhibited signs of debility, or had to be treated by tonics. Eliminating 39 cases of injuries and spinal diseases, the proportion of cases of debility was still 83 per cent.; 23 cases were connected with irregularity of diet; 5, of the egesta; 19 with previous disease; 26 arose from irregularities of occupation; 4 from external influences, &c. Only 81 cases out of 221 were thus clearly accounted for; the rest might depend on the common causes that tend to shorten life amongst dwellers in towns. The eyes were more or less affected in most cases. Tonics, and especially iron, were given in the majority of instances. The kinds of food and system of diet to be recommended are discussed with clearness and judgment. Though not containing much that is original, except what we have noted above, this little *brochure* affords matter for reflection and instruction.

*Sanitary Legislation: with Illustrations from Experience in Liverpool.* A paper read before the Public Health Section of the National Association for the Promotion of Social Science, at St. George's Hall, Liverpool, 1858. By W. T. McGOWEN, Solicitor. pp. 32. Liverpool.

*Liverpool. Past and Present, in Relation to Sanitary Operations.* A Paper read at the same meeting as above, by John NEWLANDS, F.R.S.S.A. &c., Borough Engineer. pp. 24. Liverpool.

The development of sanitary science is one of the most cheering facts of the day. We have at length become alive to the fact that a diminution in the rate of mortality amongst the poor is not merely a moral gain, but a matter of pecuniary interest to each of us. This has been shown,

were any demonstration needed, by the work of Dr. Farr on "Money Value of a Man." When we add to this, the probable addition to our own length of years by the precautions which ensure the public health and promote the salubrity of towns, we furnish a motive sufficient to engage the attention of all. But if any one should still doubt whether anything has been done in the direction of sanitary improvement, we refer him to these two ably-written papers for a practical answer to his question. We are told here what Liverpool was, and what it is: how, by improvements in building, in draining, and by reform in the domestic arrangements of the poor, it has advanced from being the most unhealthy town in the kingdom to a condition of comparative salubrity. In 1846 the mortality in each 10,000 inhabitants was 384! Under the labors of the sanitary commission, its able medical officer of health, and the energetic local board, this rate was gradually diminished, until, in 1857, the mortality out of the same number was 299, showing a saving of 85 lives out of every 10,000. During this period, London, by the same means, had saved 16 lives out of 10,000, Glasgow 29, Manchester 49. Doubtless the death-rate of Liverpool is still too high, and much yet remains to be done. But to show the advantage of the present saving, Mr. McGowen has made an interesting calculation, which has been revised by an actuary. The whole annual gain amounting to 3750 lives, each productive life being reckoned as worth £300, after deducting the expense of the works, which are estimated to last at least twenty-five years, the total saving to the borough of Liverpool will amount to some 14½ millions of money!

*Memoirs on Diphtheria.* New Sydenham Society. London.

This volume, published at a very appropriate moment, includes five memoirs on Diphthérite, by Bretonneau, and memoirs by Geursant, Trousseau, Bouchut, Empis, and Daviot, on the same disease. The earlier memoirs of Bretonneau have, perhaps, chiefly an historical interest; many of his views have been considerably modified, and are now accepted with caution. Our readers are already acquainted with the more prominent views held by Trousseau, Guersant, and the leading French physicians, through the medium of THE LANCET Report, in which they were condensed, and their main views discussed. The five memoirs of Bretonneau constitute, however, the *locus classicus* of the literature of diphtheria. That of Trousseau, on Cutaneous Diphthérite, is an admirable and most valuable monograph on a form of diphtheria which is of high interest in relation to the specific character of the disease, and has not yet been observed in England to such an extent as to permit of mature study. The memoirs are well selected, and well translated by the Editor, Dr. Semple. We should have been glad to have

found here the memoir of Lespiau, on the Epidemic of the 15th Regiment, in the "Memoirs of Military Surgery and Medicine," which might serve as a model for the detail of any similar outbreaks; and we regret still more not to meet here with Trousseau's *Leçons Cliniques*, delivered on the occasion of the death of Dr. Valleix by diphtheria, in which the whole subject was discussed with the eloquence and ability which distinguished this great teacher. These lectures are probably the most valuable *aperçu* extant of the French school of treatment and doctrine concerning diphtheria. Those, however, who wish to supplement the shortcomings of this volume—omissions unavoidable where space and cost are to be consulted—will find at its conclusion a very complete Biographical Appendix, compiled by Mr. Chatto, which will afford to them a very satisfactory guidance.

### Foreign Department.

PASSAGE OF A LARGE BILIARY CALCULUS INTO THE INTESTINAL CANAL, THROUGH THE PARIETES OF THE GALL-BLADDER, ADHERENT TO THOSE OF THE TRANSVERSE COLON; PERFORATION OF THE COAT OF BOTH VISCERA.

M. Bourdon, physician to the Paris Maison Municipale de Santé, mentioned the above case, at the meeting of the Medical Society of Hospitals on the 18th of April last. The patient was a half-insane woman, about sixty-three years of age, who had suffered from diarrhoea for five months, followed by loss of flesh. The treatment used had been nullified by intemperate habits.

On admission, she was very weak, her skin of a waxy-yellow color, and the face somewhat puffed. She complained of severe diarrhoea, without colic; but there was no vomiting, no gastric pain, nor flatulence. The liver was not felt below the ribs. Alvine dejections liquid, reddish, foetid, and containing a viscid mucus; anorexia, thirst, pulse small and frequent, the skin hot, and occasional shivering.

*Treatment.*—Astringent mixture, rice water, one drachm of diascordium, two small enemata with starch and laudanum, rice soup and panada.

After a little improvement, there was, eleven days after admission, some blood in the dejections; there were besides, hiccup and green vomiting; cold skin; pulse 100, regular; and anxious countenance. Sinapisms to the legs.

The next day the patient was delirious, the vomiting of green fluid continued, and she died.

*Autopsy.*—No recent peritoneal inflammation. In the right hypochondrium, and below the liver a hard mass was perceived, consisting of the colon and liver, connected by old adhesions. In the middle of this mass was a cavity, containing serum and a brownish fluid. The

colon, as it became transverse, entered this kind of cloaca. There was much congestion of the intestinal mucous membrane. The sigmoid flexure presented a large dilatation, caused by a calculus of the size of a hen's egg; and the beginning of the rectum was much narrowed. There was fatty degeneration of the liver; the gall-bladder had quite disappeared, and probably formed part of the mass mentioned above. No minute description is given of the internal aspect of this mass, which is a grave omission; but M. Bourdon thinks that the calculus must have distended the gall-bladder, which latter, having inflamed, became adherent to the transverse colon. This portion of intestine had also inflamed and ulcerated, and given passage to the calculus, which was stopped in its progress at the sigmoid flexure.

To this case may advantageously be added the following:—

**TUMOR IN THE UMBILICAL REGION; ABSCESS; FISTULOUS OPENING, AND SPONTANEOUS ESCAPE OF SEVERAL BILIARY CALCULI; SEVERE ICTERUS; GREAT LOSS OF FLESH; DEATH.**

Mrs. X—, aged sixty-five, of intemperate habits, presented, in 1857, a tumor, of the size of a fist, and painful on pressure, reaching from the umbilicus to the right hypochondrium. It resisted ordinary means, softened near the umbilicus, and was opened, the operation setting free a considerable quantity of whitish pus.

The wound healed to a fistulous opening; and, in March, 1858, a black body escaped from the aperture, which body was found to be a biliary calculus.

For six months a great number of these calculi were discharged through the same orifice. After the escape of one calculus, the wound would almost close, but inflame and open again just before the escape of another, the latter being unaccompanied by any fluid resembling bile.

The patient became thin and weak, very severe jaundice suddenly set in, and she died a few days afterwards.

**Autopsy.**—The liver filled half of the upper part of the abdomen, and was infiltrated with bilious fluid of a dark-green color. The least incision caused a great deal of this fluid to escape. It was difficult to discover the gall-bladder, which was at first supposed to be destroyed; at last a small hard tumor, of the size of a nut, was discovered in the region of the gall-bladder. It was, in fact, the organ itself partly annihilated and cicatrized, surrounding a foreign body, which was found to be a biliary calculus, similar to those which had escaped during life.

The author supposes that the gall-bladder, filled with calculi, had inflamed and formed adhesions with the abdominal parietes, and discharged the concretions in the manner stated. The biliary vesica was thus, in part, destroyed, and the hepatic duct being obstructed by a sin-

gle small calculus, which was in the way of the normal course of the bile, gave rise to complete retention of this secretion in the liver. The latter organ became, in consequence, enormously enlarged, and an accumulation of bile in its texture took place, the absorption of which rapidly gave rise to severe jaundice, and finally killed the patient.

#### HYDRAULIC DILATATION OF STRUCTURE OF THE URETHRA.

All surgeons know of Dr. James Arnott's method of hydraulic dilatation of the urethra; nor has the merit of the invention been unacknowledged in this country or on the Continent. The principal of this treatment has lately been applied by M. E. Fournier, who has proposed in a paper read before the Academy of Medicine of Paris, on March 24th, to draw a line with nitrate of silver on the prepuce a third of an inch in front of the spot of the stricture. This is to serve as a landmark for the patient, who is desired, each time he is about to pass urine, to compress the urethra a little anteriorly to the line. This being done for about twenty seconds, the urethra is freed, and a strong jet of urine is thus made to dilate the narrowed portion of the canal momentarily. This may be done four or five times at each act of micturition. As this act is performed three or four times a day, some amount of dilatation may be hoped for; and the whole process may be rendered more efficacious by desiring the patient to take a large quantity of bland fluid.

#### ON THE MANNER OF STOPPING THE PULSATIONS OF THE RADIAL ARTERY AT WILL.

When the forearm is, either actively or passively, extended on the arm in an exaggerated degree, the pulsations of the radial artery cease. This fact everyone can ascertain for himself; and M. Verneuil explains it by a compression of the aponeurotic expansions of the biceps and brachialis anticus upon the vessel. Advantage might be taken of these circumstances in hæmorrhage from the hand or wrist; in the ligation of the radial or ulna arteries and their branches; or, lastly, in aneurism of the forearm. A weight might, in such cases, be fixed to the hand; or a splint be fixed on the dorsal aspect of the limb, with a pad against the elbow, so as to enforce exaggerated extension.—*La Presse Médicale Belge*.

#### INFUSION OF COFFEE IN STRANGULATED HERNIA.

M. Couturier (of Mérinchai, France) mentions the following case, in the *Gazette des Hôpitaux* of the 12th inst.:—A woman aged forty-five years was suffering from strangulated crural hernia, which was found irreducible. As the symptoms were extremely alarming, M. Couturier proposed an operation; whereupon the pa-

tient stated that she would rather die than submit to it. Under these circumstances, her surgeon remembered the success obtained by M. Cholut with infusion of coffee, and ordered a half pound of fresh-ground coffee to be covered with three pints of hot water, and a tumbler of the infusion to be given every half hour. He then left after telling the friends that the case was almost hopeless. The next day, however, he heard that the patient was much better; that after the fourth tumbler the tumor had lost half its size, and quite disappeared with the fifth tumbler. Soon after the reduction, three motions took place; but the patient was for the next twenty-four hours extremely feverish, owing apparently to the large quantity of coffee she had taken.

#### DR. CORVISART ON THE PANCREAS.

This talented physiologist has sent a new paper on the Digestive Faculties of the Pancreatic Juice to the Academy of Medicine of Paris, being a sequel to a paper on the same subject presented in 1857. This new contribution to experimental physiology by Dr. Corvisart has been referred to the committee appointed to award the prizes on this branch of medical science.

#### OPHTHALMOSCOPE FIXED UPON THE PATIENT.

M. Gillette de Grandmont, a medical student, has just brought before the Academy of Medicine of Paris an apparatus, which fixes upon the patient's face the lens used for examining the eye. The apparatus is composed of a concave plate, which fits the bridge of the nose; to this plate are added ordinary spectacle frames, which, by lying on the circumference of the orbits, give the instrument much steadiness, favored by an elastic band running round the head. To the same plate is fixed, at right angles with the face, a short socket, in the interior of which is a box which carries a lens, moveable in every direction. A screw, which moves the box, allows the observer to change the focal distance of the lens. When the apparatus is placed upon the patient, and the lens is brought into the axis of the pupil, the surgeon, taking with his right hand the reflecting mirror, illuminates the interior of the eye. This manipulation will be greatly facilitated by the patient's head being directed with the observer's left hand, which remains free.

M. Gillette conceives that this apparatus affords the following advantages—

1. It prevents the blinking, which is inevitable with other instruments.
2. It fatigues patients less than other ophthalmoscopes.
3. It allows the most inexperienced observer to examine the interior of the eye.
4. It gives facilities for several persons to examine the same patient in succession,

without the necessity of moving the instrument.

5. The observer has one hand free, which, being applied to the vertex of the patient, may direct the head to the most favorable position.

6. It is simpler and more readily adjusted than the mounted ophthalmoscope; and does not require like the instrument held by the hand, a dexterity which is only the result of several months' practice.

### Miscellaneous Correspondence.

"Audi alteram partem."

#### PRIVATE LUNATIC ASYLUMS: RUCK VERSUS STILWELL.

(LETTER FROM DR. CONOLLY.)

To the Editor of THE LANCET.

Sir,—Although I could not read the able article in THE LANCET of Saturday, the 2nd inst.\* without some pain, I am quite sensible of the delicacy, and even of the kindness of feeling, with which you have animadverted on what you, perhaps not unreasonably, consider to have been wrong, or at least unfortunate, connected with Mr. Ruck, as exhibited in the recent cause of Ruck versus Stilwell. I wish, as much as you can do, that arrangements could be made for the insane, above the class of paupers, which would not expose those practising in insanity to the suspicion of acting from motives merely mercenary; but can you, after all the consideration you may have given to it, suggest how this is to be effected? I have myself repeatedly reflected upon it, but I confess to being quite unable to see how the difficulty is to be removed. I looked with the utmost interest to Lord Shaftesbury's evidence for some information. His great experience, his high character, his large benevolence, and the recollection of much kindness shown to me, had prepared me to receive every word that fell from him with a kind of instinctive and respectful assent. But I was painfully disappointed. I found only immeasurable condemnation of those interested in private asylums, and in the substitutes for private asylums nothing practicable suggested. The general suspicion of interested motives must always remain attached to institutions, as well as to men, in which or by whom anything whatever is done for profit or for payment; and the chartered institutions spoken of so highly by Lord Shaftesbury would not be less liable to it than a private asylum; nor would the public have any greater security for the good and honest management of these public institutions. My trust in human nature and in the character of men is greater than Lord Shaftesbury's; and I still firmly believe, what his Lordship so em-

\* Vide the Editorial, present number.

phatically denies, that a man may be the proprietor of an asylum, and yet actuated by honorable motives; that a physician's pride and pleasure in seeing an insane patient restored to reason under his care may be greater than his concern for the loss of the moderate profit arising from the anxious care and treatment that led to recovery.

You well know, Mr. Editor—quite as well as I do,—that the treatment of the insane comprehends much more than physio; that mere drugs are of small avail; and that the days of head-shaving and antimony, and low diet, have passed away. The insane require a cheerful residence, a house adapted at once for their protection, and possessing everything which has a tendency to promote their recovery or their amendment; to improve their bodily health; to give repose to the nervous system; to cheer and revive the affections; and to restore the oppressed or bewildered intellect to healthy life. It would be a cruel mistake to reckon securely on such advantages being presented in the chartered houses—houses erected at the public cost, and partly supported by the county rate. Such homes as the insane require can only be properly regulated by medical men, whom the committees of such institutions would generally regard with the meanest jealousy. The head of an asylum constituting such homes as are required must always be a medical man, and one of high and liberal qualifications, skilled in all that relates to the mind as well as to the body, and appreciating everything that affects either or both. Every arrangement for persons of disordered mind, great or trifling, must really be based on physiology and mental philosophy, as well as on medical science. It is this which makes it essential that asylums should be entirely regulated by the physician; and from this it arises that a physician must be able to offer such a home for insane patients, and that private asylums are really indispensable to the public.

It is most earnestly to be hoped that the evidence given by Lord Shaftesbury with respect to substituting public institutions for private asylums, will be most carefully considered before any new legislative measure is resolved upon. If I am not altogether mistaken, it will be seen that even if public institutions could be raised, they would be open to far more, and more serious, objections than private asylums. There has been enough of declamation on that subject, and it is time for the exercise of some wisdom and judgment. At present, the proprietors of asylums know not what to expect; and it seems to be quite forgotten that whatever ruins them will be to a great extent fatal to the insane.

For a long time I have entertained a hopeful expectation of seeing asylums founded for patients of the educated classes, whose circumstances were very limited. I had the honor to be associated with Lord Shaftesbury, and with Mr. Tite, and other excellent persons, many

years ago, in an attempt to establish one. Lord Shaftesbury's evidence records how signally the attempt failed. Our trust in the public was found to be too sanguine, and assuredly that trust cannot prudently be transferred to the guardians of the county rate. If any really practicable plan could be devised, free from all the supposed temptations and evils of private asylums, it would receive the generous support of the whole medical profession, and I would willingly devote the years remaining to me to making every effort to carrying it into effect.

Your observations on the case of *Ruck v. Stilwell* had a material relation to this important question, and I trust I have stated it not unfairly. Permit me, in conclusion, to say one word more in reference to Mr. Ruck's case. When a medical man signs a certificate of a patient's insanity, the certificate is never addressed to any particular asylum. The patient's friends determine on the asylum, and designate it in the order signed by them. Their choice is often quite independent of the advice given by the certifier; but if the medical man is consulted about it, he ought always to be prepared to recommend an asylum which he knows to be deserving of confidence. It is a general rule that when a certificate is presented at an asylum in which the medical man signing it is interested, it is not acted upon. Another is procured in its stead. The first certificate remains valid as a general opinion, but is inoperative as to that particular asylum. By some accident my certificate in Mr. Ruck's case, which was one calling for prompt interference, was received at Moorcroft, and was afterwards overlooked by the Commissioners in Lunacy. This inadvertance, although inflicting no injury or wrong on Mr. Ruck, has been bitterly paid for, and vindictively punished; yet Mr. Ruck lies under a deep moral obligation to the proprietors of Moorcroft for their immediate reception of him, for the immediate protection they threw around him, for the comfortable and secure home they afforded him, and for all the care which contributed so far to restore intellect to him as to enable him to devise the means of being both unjust and revengeful. The possible calamity from which he was thus screened, perhaps the crime and the penalty, although inconceivable to his morbidly constructed mind, will be admitted by everyone who reads his history, and is conversant with the ways of madmen.

If I may presume to allude to the limited exertions of my own professional life, they have assuredly manifested no wish to injure the insane; and, when occasion required it, I have not shrunk from defending their cause, without regarding the consequences to myself. No man feels a greater jealousy of interfering with any man's liberty than I do; but liberty to do evil must not be permitted; liberty to treat a family with cruel neglect; liberty to waste property, and to endanger the personal safety of other people. We may incur obloquy for doing our



duty in such cases, but the duty itself is plain and undeniable, and must be done whatever the cost. I trust that the many honorable men engaged in a high department of medical study and practice will not be deterred, any more than I shall allow myself to be, from performing this duty—a duty to the public—in any future instance, let the consequences be what they may.

I remain, Sir, your very obedient servant,  
Hanwell, July, 1859. J. CONOLLY, M.D

### RUCK VERSUS STILWELL.

*To the Editor of THE LANCET.*

Sir,—A system which has actually succeeded in bringing a man of Dr. Conolly's reputation under an unworthy suspicion cannot be right, and I, for my part, rejoice that you have taken the matter in hand.

I am a "mad doctor," and be the cause what it may, I cannot somehow confess it to you without a certain tinge of shame. I have made frequent attempts to contemplate myself as a "psychological physician," or under the shadow of some such grand name, but always unsuccessfully. It has invariably forced itself upon me that the fact is the same however it may be called. An unhappy destiny, alas! compelled me to take my present position, and an unhappy experience has taught me the folly of kicking uselessly against the pricks. "Oh, mihi præteritos referat si Jupiter annos!" I am not, however, in a private asylum, but at the head of a public hospital for the insane, and I have no interest whatever in keeping a patient in the establishment; and yet I assert deliberately, and I ask you to perpend it well, that I am constantly finding myself fighting against myself. I see a patient well, or so well that he can efficiently do the work which Providence has appointed him to do in the world; but this man pays six guineas a week, and so it somehow appears to me that a short time is necessary to confirm his recovery; or he is not quite well, and I cannot but think it necessary to inform his friends solemnly that if they take him out they must do so entirely on their own responsibility, that I cannot be answerable for the consequences, &c. I would have you to know, Mr. Editor, that I do not yield in such cases, only I am very strongly tempted to do so; for I hold the opinion—and in spite of all those effusions which may be connoted under the term asylum cant, I see no reason to doubt it—that a man may be a little "cranky," and yet may be quite as competent to despatch his business in life as any other man, and, moreover, far more likely to complete his recovery when so occupied than when engaged in contemplating all the day long the antics of stark madness. An asylum is the last place in the world that I should wish to be sent to myself, and I therefore generally discharge a patient when I reasonably can discharge him. Were I the keep-

er of a private asylum, and had I a strong personal interest in the matter, I confess to you candidly that I think my nature would be tempted above that it is able to bear.

The assertion which Dr. Conolly has made in his letter to you, that there would be as much interest in making a profit in public establishments as there is in private houses, is made in utter ignorance of the facts and in entire forgetfulness of human nature. When he says, also, that in such establishments the committee would entertain the "meanest jealousy" of the medical officer, he talks from a Middlesex experience. It is rare to hear a superintendent of a county asylum out of Middlesex complain of his committee; it is not rare to hear him laud them as a body of perfect gentlemen; and I can assure you Sir, that I, as a superintendent of a public hospital, cannot discover the slightest ground of complaint against my committee.

When Dr. Conolly informs us that the object of placing a man in an asylum is, amongst other things, "to cheer and revive the affections," the assertion simply excites a smile. One might compare it to a proposition for placing a man in the regions of Tartarus by way of cooling him. There was a philosopher named Comte, whom some place by the side of Bacon, in whom it is said that a "cerebral excitement, under the care of mad doctors, was fostered into decided insanity. After the doctors had declared him incurable, he was cured by domestic care and tenderness." Would anyone assert that the case of Auguste Comte, the Positive Philosopher, might not be the case of others?

Ruck v. Stilwell, make of it what you will, certainly has a bad look about it. And this is greatly to be regretted, inasmuch as no one can doubt that Mr. Ruck was very mad, and was properly sent to an asylum. But it is the evil of a bad system that it affects all those who are engaged under it, and inflicts on them unmerited injury. I think it is a matter of regret that Mr. Ruck was restrained so constantly from communicating at all with his friends.

I am, Sir, your obedient servant,  
A M.D. LOND., AND THE SUPERINTENDENT  
OF A LUNATIC HOSPITAL.

July, 1859.

### A NEW PLAN FOR THE MANAGEMENT OF PRIVATE LUNATIC ASYLUMS.

*To the Editor of THE LANCET.*

Sir,—Some change is desirable in order to place private asylums and insane individuals in their proper position before the public. I send you the outline of a plan, the only or the chief objection to which is the cost, and that is less than the nation wastes in the conversion and reconversion of a couple of men-of-war.

1st.—I would recommend that all private asylums should be purchased by the nation and licensed, and managed hereafter by an enlarged and much improved Board of Commissioners of Lunacy.

2nd.—That all the medical officers should be appointed by that Board, after a fair public examination of their fitness.

3rd.—That they should all receive fixed salaries, in nowise dependent upon the number of inmates or their position in life.

4th.—That the officers should be removable from one asylum to another at the pleasure of the Board, whereby great advantage would result to the inmates from the occasional change of the head of the asylum, and great relief to the medical officer from change of scene.

5th.—That the public should have the power of choosing what asylum they should place their relative in, and that the Board should give advice and information to every applicant as to which asylum is most suited to the means and case of the applicant.

6th.—That the Board should use their discretion in either shutting up such of the present asylums (after purchasing them) as are not suitable, or in providing others according to the wants of the country.

7th.—That the payments of inmates should go to defray the expenses, not of the particular house, but of all collectively.

8th.—That ample visiting and managing power be given to the Board, as well as authority, in matters of money and general management.

I believe a plan of this nature would meet every objection—that eventually it would pay its own cost, and enable the Board also to provide proper accommodations and treatment for those who are now not able to pay for it themselves. I think there are no insuperable difficulties in the way of its adoption. I believe also that the proprietors of private asylums will readily sell their interest in their houses at a fair valuation, and be glad to get out of a profession where they are so vilified. Many of them might well be entrusted to manage some or other of the houses under the new system. I think the whole cost of the present asylums would not exceed £250,000, much of which would be returned by the re-sale of those houses situated too near towns. And if £500,000—what then? The present owners have profit on the outlay, and so would the Board; and good interest could be obtained for the purchase money from the better system of general management which could then be adopted. No other body or person than the Board should, under heavy penalties, have power or any pretence to keep people certified as insane. The Board could then adopt any plan, such as the single cottage, or villages in proper localities, or any other they may think best.

I am sure that no other plan than that of purchase and national management will remedy the existing evils. Much would depend on the formation of the new Board, and the spirit in which it would work. Power should be given to some judge or other person to fix the price of

purchase if the seller and Board cannot agree, and the sale should then be compulsory.

This is an outline of a practicable plan.

Yours truly,

HENRY LANDOE, L.R.C.P.E.

Southsea, July, 1850.

Late of Heigham Retreat.

# TREATMENT OF SUN-STROKE.

To the Editor of THE LANCET.

Sir,—I shall feel much obliged if you would inform me of the most approved treatment in a case of sun-stroke. Having had reference to a number of works, and finding very little mentioned on the subject, I am induced to ask your valuable opinion.

Your obedient servant,

Highbury, July, 1850.

A YOUNG SURGEON.

\* \* \* Probably some members of the profession, who have had to treat this disease in hot climates, will aid our correspondent by acquainting him with the results of their experience.—ED. L.

# CONCAVE KNIVES IN FLAP AMPUTATIONS.

[LETTER FROM MR. ALLARTON.]

To the Editor of THE LANCET.

Sir,—It has often occurred to me that a concave knife might be used with advantage in some cases of flap operation, and especially in cases where the limb is very fleshy, or where the cellular tissue is much infiltrated. In such cases, the flaps are often so bulging and bulky as to prevent a nice adaptation of their surfaces, and suppuration and sloughing occur, which not unfrequently terminate in death. A few days ago, I amputated a thigh which was so fleshy and infiltrated, that in selecting my point for transfixing the limb, I could indent the tissues on each side with my finger and thumb from an inch to an inch and a half. In such cases, I prefer Mr. Luke's operation—i. e., making the under flap first, as, from the draining and consequent shrinking of the infiltrated tissue, we are liable to get too small or too short a flap. The draining, moreover, by causing shrinking of the cellular tissue, leaves the muscular portion of the flap bulky and projecting, and before the stump can be neatly dressed, it is necessary to slice off the projecting mass. To avoid this procedure, Mr. Erichsen, in his admirable work on Surgery, recommends skin flaps and circular incision of the muscles. Both practices, however, may be avoided by the use of a concave knife. The proper curve to give to such a knife must be determined by experience, but I should think that a curve having a radius of thirteen or fourteen inches would suffice, the blade being in other respects like the ordinary double-edged flap knife, with a blade about ten inches long in the cutting part. The handle and the blade should take the same sweep, the curve, of course, being on the flat surface. To use such a knife,

it would be necessary to transfix the limb, taking a good sweep round the bone. The point once fairly through, thrust it onward and forward from point to heel, keeping its convexity well down in the muscles; then draw it back from heel to point in a corresponding direction, and finish the flap by cutting out. The best mode of using such a knife would, however, soon suggest itself to practical men, and I think its advantages would be great in some cases. As my present locality does not promise many amputations, I must leave the suggestion to surgeons who have ampler opportunities, trusting, at the same time, that its provincial origin may not be allowed to stand in its way.

I am, Sir, yours obediently.

GEO. ALLARTON, M.R.C.S.

South Molton, Devon, July, 1859.

### LABOR, WITH THE HYMEN UNBROKEN.

*To the Editor of THE LANCET.*

Sir,—The report of your correspondent's cases of syphilis with the hymen intact, induces me to trouble you with a short record of three cases of labor in which the hymen was in the same condition. The patients were married. The first was of middling stature, robust, and eighteen years of age; the husband of average height. The second was a little woman, of slight build; the husband thin, and not more than five feet three inches high. In the third case the relative proportions of man and wife were the same as in the first. In all the cases the passage of the foetal head destroyed the membrane, without its offering any impediment to the completion of labor. In each case the hymen was situated at the orifice and not, as sometimes happens, more internally.

Dr. Wm. Hunter had the body of a young woman (brought for dissection) opened, and discovered a small foetus, although the signs of virginity were strongly marked.—(Vide Dr. Rigby's "Midwifery," p. 52.)

The above cases bear interest in a medico-legal point of view, showing that sexual congress may be repeated, pregnancy ensue, and continue for the full period, without destruction of the membrane. The three instances occurred during a period of seventeen years, and are selected from 2500 midwifery cases.

I am Sir, your obedient servant.

JOHN S. BEALE, M.R.C.S.

Paddington-green, 1859.

### REPLACEMENT OF AN EXTRACTED TOOTH.

*To the Editor of THE LANCET.*

Sir,—The belief is entertained by many individuals that when a sound tooth has been removed it cannot be returned to the alveolus, and resume its vitality. That this is incorrect the following statement will prove, although I may mention that it is by no means the only instance which has occurred in my practice.

About two months ago a gentleman came to me complaining of pain in the right side of his face, which appeared principally to affect the first upper molar tooth, which was to all appearance perfectly sound. He was anxious to have it extracted; this was declined, a liniment and aperient medicines being prescribed instead. He returned to me for the purpose of getting this tooth out, and I recommended him to go to the seaside for a fortnight, which he did, with decided benefit whilst there. On his return to town, however, the old pain came back, and at his most urgent request I removed the tooth with the aid of the electrical anæsthesia. It was, as I suspected, perfectly sound, and, after rinsing the mouth, in about five minutes it was replaced in the socket, in which it was kept by the teeth of the lower jaw coming in contact. He felt uncomfortable for a week; all uneasiness then passed away, and now the tooth is serviceable and sound.

The electric cautery, which has proved so useful in my hands was inapplicable to such a case as this, because there was no broken surface nor sign of irritation along the margin of the gums. My patient afterwards went under the care of Dr. B. W. Richardson, who treated him for gouty facial neuralgia with decided success.

I am, Sir, yours respectfully,

THOS. H. HARDING.

Park-square, Regent's-Park, 1859.

### A SUBSTITUTE FOR LINT.

*To the Editor of THE LANCET.*

Sir,—Perhaps you can find room in *THE LANCET* for the following description of a useful dressing for suppurating wounds, which is extensively used now in the Parisian hospitals, and which I have been using for some months as a good and very cheap substitute for lint, over which it has, in many cases, obvious advantages. I have anglicized it by name of "pink" as pinking is the process by which it is made. It is merely cheap cotton perforated by a common punch. The long-cloth is folded some fourteen times, and holes are driven through it with a hammer and a sixpenny punch on a piece of lead. The holes are about one-eighth of an inch in diameter, and twice their breadth from each other. My firm having been for many years surgeons to Messrs. Curtis and Harvey's powder-mills, I have had opportunities of testing it in burns and other large suppurating surfaces. These being extremely sensitive, do not require the removal of the pink so frequently as lint or other applications, as the pus passing through the perforations is easily removed with a soft sponge, which cannot be done with other applications, nor will the highly vascular granulations in burns bear the sponge when uncovered. I have found it very useful in gunshot wounds, and in compound fractures, where, as a perfo-

rated bandage, it gives support without confining the discharge, which never accumulates under it; and when removed, the surface is covered with healthy lymph, without pus. Mr. Ashbee, the intelligent manager of Messrs. Curtis's powder mills, has promised to prepare some linen or cotton by their elaborate machinery, if possible; in the meantime, the hospital patient, nearly convalescent, would be grateful for the occupation to relieve his monotony, and the cheapness of material and instruments makes it worthy of trial. Any ointment may be spread on it, and where large pieces are used, it can be rewashed.

I am, Sir, yours obediently,

J. R. A. DOUGLAS, M.R.C.S.,

Hounslow, 1859.

Formerly House-Surg. Middlesex Hosp.

### COLONIAL SURGEONS.

To the Editor of THE LANCET.

Sir,—I occasionally see the appointment of Mr. So-and-so as "Colonial Surgeon." Will you have the kindness to inform me—1st What are the peculiar services required of them (colonial surgeons)? 2ndly. Is the post honorary? or, if with emolument, what is the average amount of pay? 3dly. How is the appointment acquired? or what interest is necessary? 4thly. Are such appointments acquired for New Zealand or Canada? Yours, &c.,

July, 1859, A. B. C.

\*\*\* Before we reply to the questions of our correspondent, we think it right to publish them, in the hope that some gentlemen who have already held such appointments will favor the profession with some observations respecting them founded on their own practical experience.

### DUTIES AND EMOLUMENTS OF COLONIAL SURGEONS.

To the Editor of THE LANCET.

Sir,—A correspondent ("A. B. C.") in THE LANCET of last week makes an inquiry on the above subject. I have been surgeon in one colony and acted as temporary colonial surgeon in another. In New Zealand and Australia the appointments are now in hands of the local governments, and the pay varies from £200 to £600 per annum. The duties are to attend all Government servants, and anything professional the authorities may order. In the different settlements on the coast of Africa the pay is £400 and upwards, and the risk to life is such that I was the only colonial surgeon who did not die at Cape Coast for twenty years, and I was put on board a ship and sent home after three attacks of African fever. The appointment is in the hands of the Secretary of State for the Colonies. There is no half-pay for any length of service in any part of the world, and no re-

cognition of any claim for another appointment elsewhere.

Notwithstanding my service on the Gold Coast, short in point of time it is true, but deadly in climate, and most injurious to my future health, I never could (having no interest with great aristocrats) procure anything from the Colonial Office. I was told I could go back to Cape Coast if I pleased; and though many men were sent to good things in other colonies, I, who had already served never got anything.

I would advise no one to serve the Colonial Office for any sum, or in any locality. There is no such mismanaged department in all the Government as the Colonial.

I am, Sir, yours, &c.,

AN EX-COLONIAL SURGEON.

July, 1859.

### News Items, Medical Facts, &c.

RELATIVE RANK OF MEDICAL OFFICERS IN THE FRENCH NAVY. An Inspector-General presides over the Board of Health, having under him a first physician, or a surgeon or an apothecary-in-chief, styled "Professor," besides surgeons or apothecaries of the first, second, and third classes. Captains of line-of-battle ships, first-class engineers, first-class commissaries, and first-class physicians, are upon an equality; as are captains of frigates and physicians, being considered upon a par with lieutenant-colonels. The *commissaire adjoint*, assistant-inspector, and professor of medicine or of surgery, correspond to the *chefs de bataillon* in the army. Lieutenants of a line-of-battle ship, and sub-inspectors of surgery, medicine, &c., are upon the footing of military captains.

TREAT TO HOSPITAL NURSES.—The managers of Guy's Hospital have this year, for the first time, set on foot an experiment, of consideration for the toil of their servants which we hope to see followed by other hospitals. On the 8th inst., the entire staff of day-nurses, forty in number, were given a holiday, and treated to a picnic at Hampton Court. Two commodious charr-à-banc conveyed the nurses to their destination, where they betook themselves to the usual amusements of the palace, and seemed heartily to enjoy themselves. The picnic is to be repeated for the staff of night-nurses at Guy's; and the "sisters," of the hospital wards are next week, we hear, to have a day at the Crystal Palace.

CHLOROFORM INHALED BY ONE NOSTRIL.—Dr. Faure, who in April last advocated this manner of obtaining anaesthesia, has since experimented his method in the hospitals of Paris, and mentions in the *Gazette des Hôpitaux* of the 7th of July last, forty-two cases in which success was complete. Dr. Faure holds that it is not neces-

sary to push the chloroform to complete resolution, and thinks that, by allowing the large amount of air which passes through the free nostril to penetrate the lungs, the chloroform is always sufficiently diluted to remain perfectly innocuous, although producing the necessary amount of anæsthesia.

**DEATH FROM CHLOROFORM.**—In the Westminster Hospital, on the 18th inst., a man, forty-five years of age, was given chloroform to permit of incisions being made in the perinæum to open a large abscess, and an infiltration of urine, when he suddenly gasped a few times and died immediately. A post-mortem examination was made next day, when nothing unusual was found. The particulars of this case will be given in another number.

**THE SURGICAL SOCIETY OF PARIS.**—This Society has decided that the usual dinner shall not take place this year after the annual meeting. The money generally subscribed for that purpose will be given over to the fund being raised in favor of the wounded of the army in Italy. The Society lately proceeded to the election of national associates, foreign associates, and foreign corresponding members. The first are, Messrs. Serres, of Alais; Denucé, Bordeaux; Stoeber, Strasburg; Benoit, Montpellier; Scrive, Inspector-General of Hospitals; Michel, Strasburg; Valette, Lyons; Chaumet, Bordeaux. The second are, Messrs. Scanzoni, of Würzburg; Stromeyer, Hanover; Syme, Edinburgh. The third, Messrs. Criniselli, of Cremona; Regnoli, Pisa; Vanzetti, Padua; Blasius, Halle; Fabbri, Bologna; Friedberg, Berlin; Larghi, Bologna; Soupart, Ghent; Henry Thompson, London; Boeck, Christiania; Créde, Berlin; Reid, Jena.

**IMPORTANCE OF HYGIENIC MEASURES IN CAMPS.** We find in a very able article by M. Tholozan, "On the Excess of Mortality depending on the Profession of Arms," The following passage (*Gaz. Méd. de Paris*, July 2nd, 1859), which shows, by very eloquent figures, how paramount is the importance of securing good hygienic regulations in camps:—"During the winter of 1854-1855, the British army suffered considerably in the Crimea in consequence of over-work, the privation of rest at night, insufficient clothing and shelter, and the bad quality of the food. Towards the spring, other causes of disease and mortality were superadded, such as the total absence of drainage and ventilation, and the prolonged occupation of the same spot. In the space of seven months, from the 1st of October, 1854, to the 30th of April, 1855, the mortality was 600 per 1000 per annum. In November and December, 1855, it was only 44 and even 33 per 1000, thanks to abundant provisions, good food, and other hygienic improvements. Later, from January to May, 1856, the mortality descended to 12½ and to 8 per 1000,

owing to the proper draining of the camp, the regular removal of the soil, and the greater amount of attention to cleanliness."

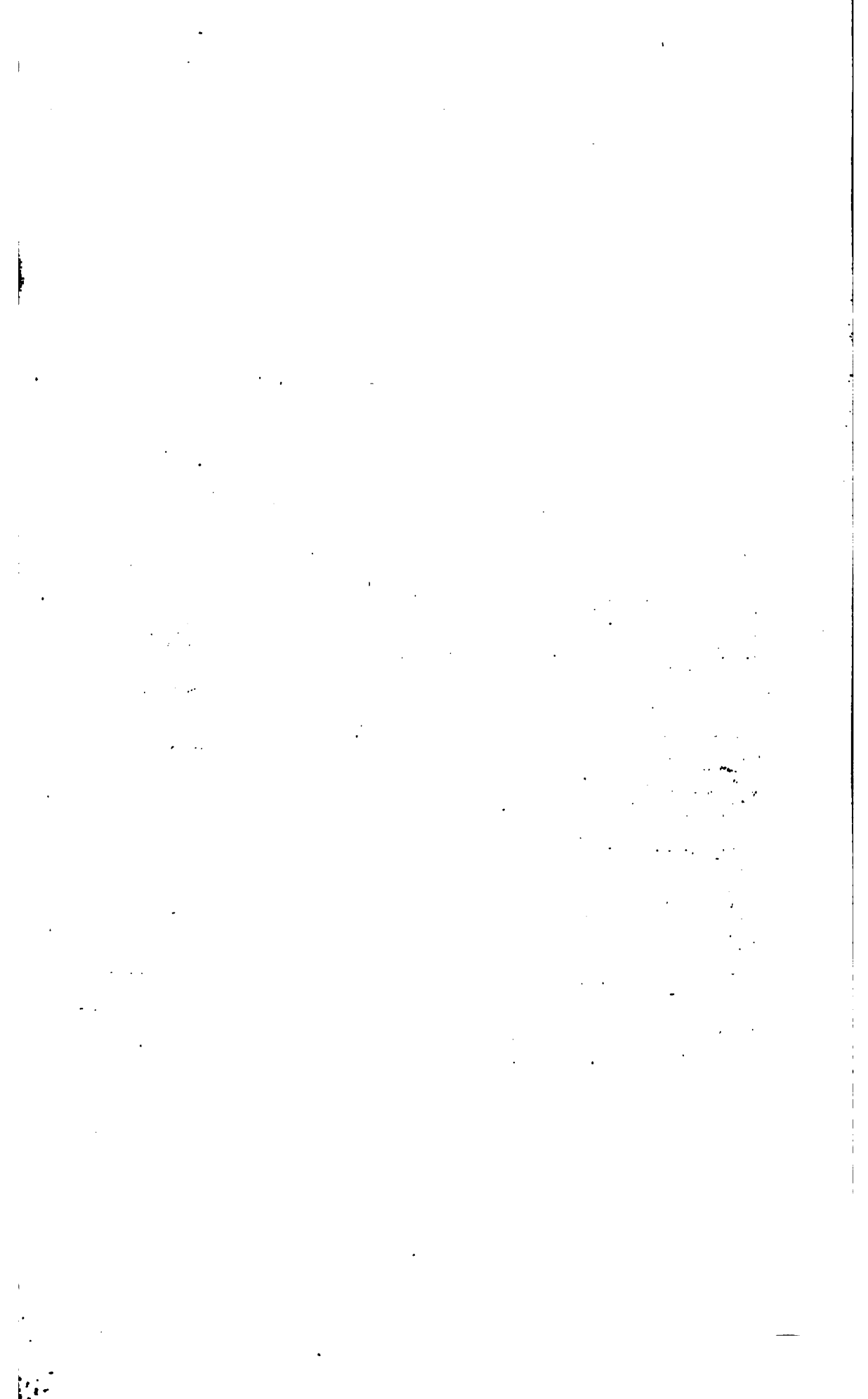
**THE FRENCH MILITARY SURGEONS IN ITALY.**—*La Patrie*, as quoted by *L'Union Médicale*, has the following remarks from a correspondent:—"There were so many wounded to be attended, so many amputations to be performed on the night after the battle of Solferino, that two surgeons, both young and vigorous, being overcome by fatigue, swooned away by the side of the patients they were operating upon. With these devoted medical men, it should be noticed, that the fatigue is double, as they are often scantily supplied with food, and obliged to assume the most inconvenient positions to perform their duties. The mind, also, and the feelings are constantly harrassed, as the cases have to be carefully considered and rapid decisions come to. One of the surgeons, now in Italy, and who had served in the Crimea, told the writer of this letter, that, just at the point of performing an operation on the Solferino night, he was obliged to desist and sleep for a few minutes before he could proceed with his work. Nor should it be forgotten, that the medical officers are exposed to all the dangers of warfare. These considerations will certainly gain for them much esteem and sympathy from the whole civilized world."

**IMPERIAL SOCIETY OF MEDICINE OF LYONS.**—At the meeting of the 11th of July last, several corresponding members were elected. Amongst these, we find Mr. de Méric, whose election took place on the report of M. Diday, the talented syphilographer of Lyons.

**THE LATE QUEEN OF PORTUGAL.**—The death of the late Queen of Portugal, announced by telegraph this week, is an event of melancholy interest. She was a Saxon princess, and on the day preceding that of her death entered on her 23rd year. The cause of death was diphtheria.

**COLLEGIATE ELECTIONS.**—At a meeting of the Council of the Royal College of Surgeons of England, on the 14th inst., James Moncrief Arnot, Esq., F.R.S., was elected President of the College for the year ensuing; and John Flint South, Esq., and Cæsar Henry Hawkins, Esq., Vice-Presidents. This is the second occasion on which these gentlemen have been similarly honored.

**PHARMACEUTICAL BLUNDER.**—We learn from Portugal that the Viscount De Ourem is said to have fallen a victim to a mistake of his apothecary, who, instead of dispensing belladonna, gave some "deadly" ingredient. [Was not the night-shade deadly enough?]





*Yours most truly  
Robert E. Grant.*



# THE LANCET.

Journal of Medical, Surgical and Chemical Science and Practice, Criticism,  
Literature and News.

MR. WAKLEY, M.P., EDITOR.

J. HENRY BENNET, M.D., J. WAKLEY, JR., SUB-EDITORS.

IN TWO VOLUMES ANNUALLY.

VOL. II.

NEW-YORK, OCTOBER, 1859.

No. 4.

## PRACTICAL CLINICAL REMARKS.

DELIVERED AT ST. BARTHOLOMEW'S HOSPITAL,  
By FREDERICK C. SKEY, Esq., F.R.S.,  
SURGEON TO THE HOSPITAL.

### ON LITHOTRITY.

Gentlemen,—The larger my experience of calculous affections of the bladder, the stronger is my conviction of the well-marked superiority of the operation of crushing over that of lithotomy. This superiority is chiefly manifested in the limit it places to the greatest of all evils attendant on operative surgery—viz., danger to life. While undoubted success has attended the practice of a few eminent surgeons, so far as to influence very prominently the statistics of the operation, it cannot be denied that the element of danger yet triumphs largely in the practice of the many, to the great discredit of the operation of lithotomy. I have elsewhere expressed my belief that the operation of lithotomy had reached its highest point of excellence. I allude to the facility with which the stone is extracted from the bladder by the surgeon. But we are not to gauge the merit of an operation by the facility of its performance, or by the skill and dexterity which it may exhibit in the operator. The merit of an operation can only be estimated by the success which follows it. That operation is essentially the best which ensures the more complete restoration to health of the subject of it. And here let me do justice to a recent modification of the operation of lithotomy, which I have seen performed on more than one subject by my colleague, Mr. Lloyd. It consists, as many of you are probably aware, of a division of structures in the mesial line only. The staff being introduced into the bladder, the sphincter ani muscle is divided in front, a kind of speculum being passed into the rectum, for the purpose of rendering it tense. The

urethra is then opened through the upper wall of the rectum, the remaining part of the canal is dilated up to the bladder by the forceps, and the stone extracted. I employ the term *dilated* because it is the term in common use, but I do not believe the urethra, especially of a child, is susceptible of such rapid, or rather sudden, dilatation, without some rupture or laceration of structure. It cannot be effected by mere stretching, by which the walls of the canal are enlarged to a circumference at least three or four times their natural magnitude. I do not mention this feature in the operation as detracting in any great degree from its merit. Dilatation of the prostatic portion of the canal has always been deemed a commendable feature in the operation, and if it be coupled with laceration, it is laceration in detail, the parts so lacerated being restored to their natural contact on the removal of the cause. I am informed by Mr. Lloyd that he has hitherto experienced no difficulty in the restoration of the functions of the sphincter muscle. The operation, to all appearance, is performed without difficulty, and the loss of blood is remarkably small.

No amount of excellence to which the operation by means of the lithotrite can be carried will ever supersede that of lithotomy—most especially, and for obvious reasons, in the case of children, in whom, fortunately, the mortality is far less than when the operation is undertaken at a more advanced period of life; also in some examples of disease in the adult. But I believe such selections should be comparatively few, and should obtain only as exceptions to a prevailing rule.

I propose now to call your attention to two cases on which I have recently operated in private. In the first of these the operation was successful, and although its progress was marked by symptoms of an untoward kind, the stone was entirely removed within twenty-seven days from the date of the first operation. The second case

was unsuccessful, and on that account I give the particulars.

CASE 1.—A gentleman of forty-one years of age, stout in build, but healthy, became the subject of stone in the bladder, the signs of which might be traced back to a term of eight months. Having ascertained that he had a healthy urethra, admitting a No. 10 catheter without difficulty—that his bladder was so far tolerant of urine as to permit its retention for three or four hours, that the urine itself was free from morbid deposit, I broke the stone across, and withdrew the instrument. The operation occasioned so little pain that the gentleman dressed himself, and subsequently took his chair at the dinner table, at which he ate moderately, but with fair appetite. Within twenty-four hours he had passed some small fragments of lithic acid calculus, but without pain or inconvenience. On the fifth day I repeated the operation; but on this occasion, having now acquired some experience of the liabilities of the bladder, I broke the fragments by eight successive applications of the lithotrite. The pain of this second operation, although it somewhat exceeded that of the first, was by no means severe; but I directed my patient to lie in bed, and to drink largely of barley water and other diluents. On the following day he had passed a considerable quantity of detritus, the aggregate of which would have filled a large thimble. A less quantity passed on the second day, when he began to complain of pain in the bladder, and his urine deposited adhesive mucus. The pain became considerable. The adhesive mucus increased. He took mercury and chalk, with full doses of Dover's powder, night and morning, with infusion of diosma two or three times during the day. The pain subsided, and the mucus diminished in quantity; and on the eighth day, I repeated the operation, and crushed the stone nine consecutive times. Catarrh of the bladder followed as before, but he passed in the course of thirty-six hours a yet larger quantity of fragments than on the former occasion. The symptoms of what is termed chronic inflammation ran high, the mucus appeared in large quantity and was tinged with blood, appetite and sleep failed, his pulse rose to 100, and he was decidedly ill. The former treatment failed to control the symptoms, and I operated again on the sixth day. Immediately all the symptoms of internal mischief vanished; the pain subsided, the mucus diminished, his bladder became more tolerant of its contents, and he again passed detritus in a large quantity. It was now quite obvious that we had passed the ordeal of difficulty, and that the fragments of stone remaining in his bladder were very inconsiderable in quantity.

I operated again on the fourth day, and completed the crushing, reducing every fragment to a size capable of transmission along the canal of the urethra. Within forty-eight hours the bladder had entirely evacuated the whole of the calculous matter, and on carefully sounding with a

variety of instruments, I was unable to detect the presence of the smallest fragment. Some months have now elapsed, and the vigilant observation of my patient fails to detect one symptom of his former disease. The stone, judging from the quantity of detritus obtained, was of moderate, not of small size. Had it been removed by means of the knife, it is highly probable that the time required for the patient's recovery would have exceeded that occupied by many days. During the progress of the treatment he cannot be said to have suffered severe pain; he was never brought within the circle of danger, and he left London with health unimpaired by surgical discipline or deprivation.

CASE 2 was that of a gentleman, sixty-two years of age; of a less healthy aspect than the subject of the last case. He had had symptoms of stone about nine months, and his health had suffered in consequence. His expression was that of a man worn by internal irritation. I ascertained the stone to be of moderate size, and its contact with the metal caused a ringing sound which was audible at a distance. On testing his urine, I found it albuminous, and postponed the operation. He was ordered diluted nitric acid in infusion of diosma, and his urine improved. In a week I introduced the lithotrite, and simply broke the stone once across. On withdrawing the instrument, and having completed the operation, Mr. ——— exclaimed, "What is that all? I have had no pain whatever." He dressed himself, and returned to the society of his family. On the following day he passed one or two small fragments of stone, composed of phosphate of lime; but he continued to sustain no inconvenience from the operation.

On the fourth day I performed the second operation. On introducing the lithotrite, the bladder appeared contracted. At all events I had some difficulty in expanding the blades of the instrument, although I had thrown into the organ the quantity of water I usually inject—viz., about four ounces. However, I caught the stone, and while screwing home the blades, I perceived blood flowing somewhat freely from the orifice of the urethra. This determined me to desist, and I withdrew the instrument. For some time bloody urine continued to flow from the canal; but on the second day I was summoned by his medical attendant, in consequence of an attack of retention of urine, and I drew off about a pint and a half of urine, deeply colored with blood. Retention again followed, and I removed nearly the same quantity, and of the same character of urine, on the fourth day. The presence of the distended bladder did not appear to cause him much inconvenience, nor its evacuation much relief. Urine, more or less bloody, continued to escape from the urethra without the effort of micturition. He had no local pain, and bore pressure, both over the bladder and on the perinæum, without complaint. He was ordered gallic acid in full doses. Sir Benjamin Brodie saw him

at this stage, and did not augur unfavorably of my patient's case. He recommended the employment of Ruspini's styptic, and suggested the repetition of the operation as early as permissible. His increasing weakness was aggravated by the excessive action of a moderate dose of castor oil, and although the hæmorrhage was reduced in quantity, his vital powers were now only sustained by the frequent employment of stimulants. Bladders of ice were applied to the epigastrium and to the perineum without effect. He became comatose, and died on the fifteenth day from the second operation.

The post-mortem examination exhibited a contracted bladder, thickened, with its inner surface coated with coagulum; a calculus of about the size and form of a moderate-sized walnut, broken into three parts—its composition, exalate of lime coated with phosphatic salts, and two lesser calculi entire; ureters dilated; kidneys diseased.

In my work on "Operative Surgery," I have referred to two or three similar cases to that of Mr. —, but they are rare. The fatal issue in this instance is not to be cited as injurious to the good name of lithotritry. Had the old operation by the knife been substituted, the issue had, in all probability, been the same. The presence of albumen in the urine, when coupled with stone in the bladder, is not conclusive evidence of diseased kidney, and with symptoms of an urgent character we are compelled to make the effort to obtain relief. The operation of lithotritry, when carefully performed, creates little more pain than that of sounding for stone, and generally, in a healthy bladder, leaves as little irritation behind. The proportion of persons who suffer from complications of renal disease, coupled with calculi, is small. I do not think such cases can be safely treated by the lithotrite. Neither is the cutting operation a security against a fatal termination.

Believing as I do that the operation by means of the lithotrite is applicable to the large majority of calculous affections of the bladder—that, if well executed, it is safer as regards the life of the patient, quite as certain as regards entire recovery, and less exhausting to the system, I recommend its practice for your consideration. And as I may not have the opportunity of addressing you again for some time, I purpose concluding these remarks with some general rules which may prove useful in your future career.

I advise your rejection of cases for lithotritry presenting the following characters:—

1. Manifest disease of the kidney.
2. The urethra so contracted as not to admit with facility a lithotrite of ample size.
3. The bladder so intolerant as to be incapable of retaining its urinous contents for three or four hours; and, on the other hand, a bladder of low nervous susceptibility.
4. Much enlargement of the prostate gland.

The quantity of water injected should not exceed four or five ounces. In many subjects the employment of chloroform excites the bladder to contract, and the injection has to be repeated. The lithotrite, from its full size and angular form, should be introduced with more caution than is usually required on the introduction of a catheter. No attempt should be made to open the instrument in the bladder until it has been pushed thoroughly home into the organ. In the act of separating the blades, do not withdraw the upper, without at the same moment pressing the lower blade downwards towards the bottom of the bladder. If this rule be not strictly observed, the upper blade will be painfully pressed against the neck of the bladder, from which hæmorrhage may follow. The stone is to be brought into the lithotrite by pressing the lower blade suddenly, and by a slight jerk or twist of the hand, against the base or bottom of the bladder. There is neither necessity nor advantage in directing the instrument to the right or to the left. It should retain the mesial line throughout the entire operation. When the stone is caught, the blades should be screwed "home," lest small accumulations become large, and render the withdrawal of the instrument through the urethra difficult. At the first operation, do as little as possible. It may be deemed an experimental occasion, and it will be sufficient to break the stone once across. On all future occasions, the number of applications of the screw may be determined by the tolerance of the patient. The stone may be broken six, eight, or more times. The intervals between each operation will vary according to the condition of the bladder, and the quantity of the detritus expelled. If the quantity be considerable, and the bladder quiet, the operation may be repeated in four or five days. The average interval is longer than this. Few cases pass through their course of treatment without giving evidence of irritability of the mucous membrane of the bladder, manifested by a discharge of tenacious mucus adhering to the bottom of the vessel. Unless in its aggravated form, it is not a serious symptom. It may be treated with diosma, or uva ursi, nitric acid, Dover's powder, &c.; but the best remedy is lithotrite. I have repeatedly seen this symptom subside on the repetition of the operation. The constitutional treatment is chiefly dietetic. Diluents should be ordered largely; and the moderate use of wine is unobjectionable. I have never seen any advantage obtained by an abstinent diet, nor any evil arise from an ordinary and habitual one. It is surprising how large a fragment may travel along a healthy urethra. They are arrested, however, most frequently at the glands, and if a fragment cannot be extracted by a pair of fine forceps in this situation, the urethra should be divided. When fixed low down in the urethra, they should be pushed back into the bladder. This may be effected by a large

catheter (No. 12), cut off straight at the points, the extremity of the instrument being supplied by a moveable knob, which is withdrawn when the catheter touches the stone. The open extremity of the instrument encircles the stone, which is forced backwards without injury to the mucous membrane. A small abscess in the perinæum may occasionally follow the violent employment of the lithotrite, or forceps, &c. It presents itself under the form of a small rounded tumor. It seldom requires active treatment, and, as a general rule, may be "let alone."

**PRACTICAL CLINICAL REMARKS  
ON  
CONGENITAL HERNIA,  
COMPLICATED WITH AN UNDESCENDED  
TESTIS.**

By JOHN ERICHSEN, Esq., F.R.C.S.,  
SURGEON TO THE UNIVERSITY COLLEGE HOSPITAL.

Gentlemen,—I wish to make some observations upon a case of strangulated congenital hernia, complicated with undescended testis, which came into the hospital a few days ago. In order to render these remarks more intelligible than they might otherwise be, I must first briefly describe that condition of things which allows a congenital hernia to occur. The testis are, as you know, in the foetus contained within the abdomen, and only descend into the scrotum a short time before birth, the involution of peritoneum which they carry with them becoming the tunic vaginales. At first the cavity of the tunica vaginalis communicates freely with the peritoneal cavity; but the aperture of communication becoming occluded by a natural process, which takes place during the latter part of intra-uterine life, and which is generally complete at birth, these cavities continue distinct and separate. It occasionally happens, however, that, either in consequence of the descent of the testis being retarded, or the natural process of occlusion not taking place, the cavities of the tunica vaginalis and peritoneum remain continuous. In this state of things it is not uncommon for a knuckle of intestine to slip into the tunica vaginalis, and lie in contact with the testis, thus constituting the ordinary form of congenital hernia. The testis, you will observe, occupies the scrotum, and the intestine falls into the tunica vaginalis. This form of congenital hernia requires no special consideration, and I mention it merely in order to say that it is not the form which I am about to describe to you.

The second form of congenital hernia is that in which the hernia is complicated by, and lies in contact with, a testis, which either does not descend at all, remaining an abdominal organ, or else becomes engaged in the internal abdominal ring or inguinal canal, but never descending beyond the external abdominal ring; this

condition of the organ, whether the testis be lodged within the abdomen; or become engaged in the abdominal ring or inguinal canal, constituting the malformation termed undescended testis. In such a state of things as this the genital organs may be perfectly developed, and the sexual propensities and instincts exist. The scrotum, however, remains empty on one or both sides, though the testis is often lower in the canal on one side than on the other.

This case to which I wish to direct your attention is one of this description, but of something more than this, being complicated with a hernia. Before going into the particulars of this case, I will briefly recapitulate the different conditions under which an undescended testis may present itself to the surgeon.

The first of these is that of a small, hard, painless tumor, the size of a small walnut in the inguinal canal, which may readily be mistaken for a hernia. The scrotum, however, is empty upon the corresponding side, or on both sides; and the tumor, instead of being smooth and uniform like a hernia, is more or less nodulated, and hard to the feel, and is not reducible. There is no gurgling in the tumor, and when pinched, the peculiar sickening sensation characteristic of injury of the testis is complained of by the patient. Sometimes it will be found that a truss has been worn under the impression that the tumor was a hernia.

The second of these conditions is that of a testis in the inguinal canal becoming inflamed. Inflammation of an undescended testis lying in the inguinal canal is a condition of great surgical interest and importance in a diagnostic point of view, and is not unfrequently mistaken for strangulated hernia, as in the following case:—

About ten years ago, I was called up one night by the house surgeon to see a man who had been sent up from the country to be operated upon for hernia. On reaching the hospital, I found him in a warm bath, and the house-surgeon engaged in employing the taxis. On inquiring into the case, I was told that the patient had had a swelling in the right groin for a year or two, and had worn a truss, on the supposition that it was a hernia; but the pressure of the pad causing great uneasiness, he had left it off from time to time when at work. On the preceding day he had been attacked with colicky pains and vomiting, and the supposed hernia had become greatly swollen and painful. The taxis had already been employed, and caused him severe pain. On his admission, the house-surgeon took the same view of the case as had been previously done in the country, and adopted the ordinary treatment for reducing a strangulated hernia. On examination, I found within the right inguinal canal a tumor nearly as large as the fist, hard and somewhat irregular below, soft and rather fluctuating above, lying completely above the external ring. Great pain was experienced when pressure was made upon the tumor. The

left testis had descended; the right side of the scrotum was empty. The patient had not vomited since his admission, and his bowels had acted in the morning. There was a good deal of pyrexia. From the feel of the tumor, the empty scrotum on one side, and the general symptoms, I came to the conclusion that this was merely a case of inflamed testis in the inguinal canal. I ordered him to be bled in the arm to eight or ten ounces, to have a dozen leeches applied to the tumor, followed by hot fomentations to the abdomen, and an aperient enema. Under this antiphlogistic treatment, the pain and other symptoms subsided, the swelling alone remaining, though in a much diminished form.

This is a good instance of inflammation of a testis retained in the inguinal canal, a condition which is not unattended with danger; for cases are on record in which the inflammatory action extending to the peritoneum has occasioned death. The proximity of the inflamed testis to the peritoneum, and the liability to implication of that membrane, must, therefore, be borne in mind in these cases. The symptoms which present themselves in such cases—the colicky pains and tenderness about the abdomen, the nausea, and possibly vomiting—are due to the compression of the inflamed testis by the congested and somewhat unyielding tissues amongst which it is lying, and are too often aggravated by repeated attempts at the taxis improperly made. Under ordinary antiphlogistic treatment they soon pass off. Should an operation be performed on suspicion that there is a strangulated hernia in the canal above the undescended testis, before very positive symptoms of strangulation have shown themselves, it will probably happen that no intestine is found, but that the patient will be exposed to the same danger as if a hernia had existed, the tunica vaginalis investing the undescended testis being in direct communication with the peritoneal cavity, which will thus be opened. No operative procedure should, therefore, be had recourse to, unless positive symptoms of strangulation have unequivocally manifested themselves.

The third condition in which an undescended testis may present itself is in the form of a sarcocele in the inguinal canal where it may undergo morbid degeneration, simple or malignant as readily as in the scrotum. In such a case as this, you will have a solid indolent tumor, progressively increasing in size, lying in the canal, there being no testis in the scrotum, on the side of the tumor. Such a mass as this may be removed. I have never had occasion myself to do this operation, but it has been successfully performed, amongst others, by Mr. Storks, whose early retirement from the surgical profession is so much to be regretted.

The fourth and last condition of things of which I have to speak is when a congenital hernia is complicated with an undescended testis.

The testis lies in the inguinal canal, probably as low down as the external abdominal ring, and above this a knuckle or loop of intestine has slipped into the canal, forming a hernial tumor—that is to say, a congenital hernia, above and behind an undescended testis. So long as the intestine is not strangulated, this complication is likely to escape observation; but when once strangulation has set in, the local signs and constitutional symptoms render it at once manifest.

I have had two cases of the kind in my own practice lately, which I will briefly relate to you. The first was one to which I was called by my friend, the late Dr. Pretty. A young gentleman, about fifteen years of age, residing at Islington, while playing at leapfrog, felt a sudden pain in the groin, of a very severe and sickening character. In the evening he vomited; and, on the following morning, the symptoms having become urgent, Dr. Pretty proceeded to examine him for hernia. He found the right testis had not descended, while the left had. The right inguinal canal was occupied by a tense, elongated tumor. The lad's parents were not aware of the non-descent of his testis, though he himself knew it, but had kept it a secret. Dr. Pretty sent for me in the course of the afternoon. I found a tumor in the right inguinal canal, extending as far as the external ring, but not below it. It could be divided into two parts, the lower one rather hard and irregular, the upper small, not larger than half a walnut, tense, and elastic. There were the ordinary signs of strangulation: vomiting of bilious matter and constipation, with dragging pains in the abdomen. The treatment which had been resorted to had produced no good effect. I, therefore, proceeded to operate; and having exposed the tumor, and let out a quantity of clear serous fluid from the tunica vaginalis, found at the upper part a small knuckle of intestine, tightly constricted by the inner ring. This was divided, and the gut reduced; the testis was left *in situ*, it not being desirable to reduce it. The boy had a sharp attack of peritonitis; but, under the influence of leeching, and calomel and opium, made a good recovery.

The second case happened the other day. Last Friday evening I was sent for to see a young, strongly-built man, who had been sent up to this hospital from Luton, and who stated that he was suffering from a hernia. From the notes of the case, which is very fully reported in the case-book, it appears that on the Wednesday previous he had been at a fair, and had staid out late, and that next morning, while at work at the plough, he suddenly felt a lump in his right groin, and was soon after attacked with bilious vomiting. The tumor soon became painful, and several unsuccessful attempts were made to reduce it. About nine months ago a similar tumor had appeared in the same situation, but had been easily reduced, and he had neglected to wear a truss.

I saw him about 11 p.m. The scrotum was empty on both sides, neither testis having descended, and there was nothing, not even a retained testis, in the left inguinal canal; but in the right inguinal canal was a tumor, somewhat oval in shape, smooth and uniform, slightly elastic, very tender to the touch, though not the seat of any great pain. It was doubtful whether this was merely an inflamed testis, or whether it was one complicated with a hernia; but as symptoms of strangulation had not declared themselves, his countenance being good, his pulse only 78, his having had no vomiting since admission, the abdomen being flat, and there being but little pain and no tension about the tumor, I did not feel myself justified in operating at once. I accordingly ordered a dozen or eighteen leeches to the tumor, fomentations to the abdomen, a full dose of calomel, and an aperient enema. During the night sickness came on; he did not keep down the aperient medicine which was administered, and his bowels did not act. In the course of the afternoon, the symptoms becoming more urgent, I proceeded to operate. There was nothing unusual in the incision, except that it had to be made higher up than ordinary, and disclosed a dark tumor, distended with bloody serum, which proved to be the tunica vaginalis, forming the sac of a hernia; a loop of intestine, about three inches in length, being tightly constricted at the internal ring. The stricture was, I think, the tightest I ever met with, and I had to lay open the inguinal canal, in order to divide it safely without wounding the gut. Behind the loop of intestine was found an undescended, ill-developed testis; this was left where it was. The patient became low and depressed after the operation, and on the following morning had an attack of vomiting, and died apparently in a state of syncope soon after.

On examining the body after death, we found no peritonitis; the loop of intestine was of a deep-maroon color, filled with flatus, and with one or two patches of lymph upon the surface, but evidently in a condition that would have recovered itself. The right testis, that on the side of the hernia, was in a state of inflammatory congestion, being of a dark-purplish color, and double the size of the other, its epididymis being very considerably larger, though short, hard, and imperfectly developed. It was surrounded by a distinct tunica vaginalis, and had probably remained in the canal for some time. The left testis lay entirely within the abdomen, looking very much like an ovary, and was very small and imperfectly developed, of a pale, dull white color.

Before concluding, I may mention that, so far as my experience goes, operations for strangulated congenital hernia are, as a rule, highly unsuccessful. The mortality is greater after operations for this form of hernia than for any of the other varieties of inguinal rupture. The reason of this I believe to be, in a great measure, that

the stricture is peculiarly tight, that it is always situated in the neck of the sac (and that does not admit of external division), and that the hernia lying in an unclosed tunica vaginalis, the peritoneal cavity is necessarily extensively opened up.

#### PRACTICAL CLINICAL REMARKS,

DELIVERED AT CHARING CROSS HOSPITAL,

BY HENRY HANCOCK, Esq., F.R.C.S.,

SENIOR SURGEON TO THE HOSPITAL.

#### ON PAINFUL CICATRIX, AND IRRITABLE STUMP.

Gentlemen,—The subjects which I propose to consider to-day are, Painful and Irritable Cicatrix and Painful Stump. Painful cicatrix occurs for the most part in situations where the skin is naturally in close contact with the periosteum, as over the lower portion of the fibula and inner surface of the tibia. The pre-existing wound may be painful, but as frequently not so, as long as it remains open; the pain coming on after the cicatrix is formed, when it becomes very severe. This is a point of some practical importance, and led me to pursue the treatment adopted in the following case—viz, “subcutaneous separation of the cicatrix from the periosteum,” and the prevention of adhesion again taking place. These cicatrices have usually been dissected out; but the operation has proved very unsatisfactory, the relief being merely temporary, whilst the wound remains open, and being lost when it closes; and we may readily understand why this is the case when we recall the fact, that the wound made in this operation must be filled up by granulations springing from the periosteum or bone, as the case may be,—when we also remember the contraction which takes place in all cicatrices so formed, how the delicate periosteal nerves must be implicated, and how this contracting or contracted cicatrix must be continually dragged upon and irritated by every movement of the limb or muscles of the part. The following case illustrates the foregoing observations:—

#### *Painful Cicatrix.*

Mrs. B——, when about thirty years of age, suffered from suppression of the catamenia, for which she was on several occasions bled in the leg. After the last bleeding, pain having occurred in the spot, leeches and lotions were employed, but without any beneficial result, the pain being much increased, and very severe. This continued for three years, during which she was treated by most of the first surgeons of the day for disease of the vein. She next consulted the late Mr. Liston, who at once excised the painful spot. The wound healed, and she remained free from pain for nearly fourteen years, when it returned precisely in the same spot, and continued for several weeks very severe, and not relieved by treatment; there was

neither swelling nor redness. Another surgeon of great eminence was then consulted. He proposed to remove the cicatrix, which was done with benefit for sixteen months, when the pain returned. The cicatrix was again removed, but the relief afforded only lasted six months. Removal of the cicatrix was again recommended; but the patient desiring another opinion, Mr. Chapman, of Hounslow, under whose care she was, kindly brought her to me.

Her sufferings at this time were so great that she was willing to undergo anything that held out a probability of cure. She could not sleep at night, and appeared quite worn out with pain. Upon hearing the history of her case, I was struck with the fact, that after the last two excisions she remained free from pain so long as the resulting wounds were open and unhealed, but directly the cicatrix was completed the pain returned; and when, upon examination of the part, I found that the skin, or rather the cicatrix, was adherent to the periosteum, and perfectly immovable, I concluded that her sufferings were due to this cause, and that they would not be alleviated until the parts were separated, and the new skin as far as possible placed in the same position as that of the surrounding integument. I, therefore, proposed that the skin should be separated from the periosteum by a subcutaneous incision, and that a reunion should be prevented by moving the skin backwards and forwards from day to day as might be deemed necessary. This was agreed to, and accordingly, assisted by Mr. Chapman, on Sept. 15th, 1857, I performed the operation with the common tenotomy knife, the part cut through being very hard, like cartilage. Mr. Chapman, who attended the case afterwards, informs me that some little inflammation followed, but that it was readily subdued; that the skin was prevented re-adhering, and that up to the present time the patient had remained in good health, and perfectly free from pain.

You will find the same treatment of service in cases of irritable and painful stump after amputation. This malady has been ascribed to various causes, as, for instance, the flaps being made too small in the flap, or the bone being left too long in the circular, operation; retraction of the muscles and soft parts; implication of the nerve in the cicatrix; undue development of the bulb at the cut extremity of the nerve; exfoliation of bone and adhesion of the cicatrix to the bone, &c. &c. Where the integuments have been cut too short, or where there has been undue retraction of the soft parts, you have what is termed a conical stump, which you cannot mistake; where also there is exfoliation of bone, you may reasonably suspect its existence from the swelling and induration of the stump, whilst there will usually be redness and an opening with pouting granulation, marking the track to the exfoliating bone; but in other cases there is no sign of suffering for some time after the stump has healed, and, although the pain is almost

unbearable, you will frequently be unable to detect anything abnormal either in touch, color, or quantity of soft parts. The character of the pain almost always points to implication of the nerve in some way or other, and accordingly operative surgery has been chiefly directed to this point; division of the nerve, excision of the bulb and a portion of the nerve, and secondary amputation being the plans adopted.

Excision of the bulb of the nerve, however, does not always succeed. I have done it myself in some two or three cases, but with only temporary benefit; and from what I have observed I am inclined to believe that in many instances the suffering is not so much induced by the nerve or its bulb as by the adhesion and connexion of the cicatrix by firm, unyielding cartilaginous structure to the periosteum or bone.

You will observe, in the following case, that this suffering occurs even though the cicatrix is not in immediate contact with the bone, but attached to it by an intervening mass or band; whilst the skin around the point of cicatrix corresponding to this mass is puckered in, there is a total absence of subcutaneous cellular and adipose tissue, present at other parts of the stump.

#### *Painful Stump.*

M. H.—, aged thirty, admitted into Charing-cross Hospital Nov. 30th, 1858. Had disease of the left knee-joint at ten years of age. At fourteen, the knee, being much swollen and very painful, was punctured, and a considerable quantity of blood escaped but no matter. At sixteen, the catamenia first appeared; they left her for two years, and then returned, but with irregularity. At seventeen years of age she fell, and so much injured her knee that she went into the Royal Free Hospital, where the leg was amputated. The stump healed rapidly; but accidentally falling upon the floor, she hurt the stump so much that it reopened, and the bone protruded through the wound, which would not heal; the pain was intense and subsequently about two inches of bone were removed. After this she recovered, and remained well until about four years ago, when she felt as though the limb was entire—as if the blood were rushing to every part below the amputation, accompanied with great pain in the nerves. The pain gradually increased, and ten weeks since it became more violent than ever, and was almost unbearable; so much so, indeed, that she begged me to amputate the leg higher up.

Upon her admission, on the 30th November, I carefully examined the stump, and found that the cicatrix at one point was tied down, as it were, to the end of the bone by a dense band, about three-quarters of an inch long, and that any pressure upon this point increased her sufferings to a great degree. The end of the nerve, enlarged into a considerable bulb, could easily be distinguished, attached by this band to the bone also, thus accounting for the pain



which she experienced in the course of the nerve. I had upon previous occasions, in other cases, dissected out of these bulbs, but with so little success that I was convinced that the sufferings could not depend so much upon them as was usually supposed; whilst the result of the case which I have just related to you led me to expect that if the cicatrix were released from the bone so as to permit free movement, the patient would be relieved from pain without another amputation. Accordingly on the 11th December, the cicatrix was separated from the bone by a subcutaneous incision, the connecting medium being so dense as to resemble cartilage. The soft parts were moved gently over the bone for a short time every day until the wound was healed and all trace of tenderness had ceased. The stump which had previously been puckered and baggy, became round and plump; the pain entirely ceased; and she left the hospital, cured, on the 14th January, 1859.

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### Original Papers.

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#### ON A CASE OF COMPLETE INVERSION OF THE UTERUS.

BY THOS. HATTON WARDLEWORTH, M.D.

On the 5th ultimo I was requested to visit Mrs. H—, residing in this town, who, I was informed, was in labor of her seventh child. I found her about the average size, well proportioned, yet pale and weak; there was that appearance of the system which indicated that she had suffered for some time past from anæmia. On an examination per vaginam, the os uteri was found fully dilated, and the soft parts dilatable. The membranes were ruptured, when a small quantity of liquor amnii escaped. In a short time afterwards, increased uterine action came on at intervals of from two to three minutes, when a full-grown female child was shortly expelled. The umbilical cord was shorter than usual. The termination of the labor was remarkably easy, unattended by any strong parturient throes. According to my usual practice, the abdomen was at once carefully bandaged, and the uterus being firmly grasped through the abdominal parietes by one of the female attendants, the placental mass shortly presented itself at the os externum; with this there was, also, a firm and hard tumor. An untoward occurrence of this nature led me to ascertain what the stranger could be, when to my surprise, and I may add, horror, the whole uterus presented at the os externum, *completely* inverted, with the placenta attached to its fundus. The placenta, with its membranes, were at once carefully removed; the body of the uterus was then firmly grasped, by spreading the fingers over its inverted surface. The thumb was applied to its fundus, and lateral and upward pressure was

steadily made in the direction of the outlet of the pelvis, when I had the satisfaction to find the uterus, with a smart jerk, assume its normal state. She now complained of much pain at the umbilical region, and nausea; pulse quick and feeble. Sixty drops of laudanum were administered immediately; brandy-and-water was directed to be given at short intervals. I left my patient, after having enjoined strict quietude and to avoid every effort to cough, strain, or bear down, or in any way to excite the abdominal muscles to exert pressure upon the fundus. About an hour afterwards I was hastily sent for. I found her quiet, pulse feeble, and scarcely to be counted. There had been, during my absence, much pain of a forcing and tearing character, accompanied by some hæmorrhage. On placing the hand above the pubis, the hard and round uterus could not be felt. An examination per vaginam was at once made, when a considerable portion of the uterus was again found inverted. The former manipulations were put into practice, when in a few seconds the uterus once more, with a sudden start, returned to its natural state.

Finding the life of my patient thus jeopardized, from this second shock to her nervous system, aided by the loss of blood, the assistance of Mr. Prentice, an esteemed and practical surgeon in this town, was requested, and he promptly attended. Firm external pressure was made over the uterus, and stimulants were very freely given. Considerable cerebral excitement ensued, followed by vomiting, when she gradually calmed down. The opiate, in the same dose, was repeated. We left her asleep at three P.M. At my next visit, at eight P.M. on the same day, she was, to my surprise and pleasure, progressing more favorably than my most sanguine expectations could have anticipated. It is unnecessary to detail each visit; suffice it to say, that Mrs. H— is now as well in the time as after any of her previous confinements.

*Remarks.*—There is no doubt that in the above case, the shortening of the cord, and the implantation of the placenta to the fundus of the uterus were the primary causes of the inversion; for the facility with which the placenta descended leads to the inference that a portion of the fundus must have been inverted when the child was expelled. From the strong disposition there is to inversion for some time after the reduction has been made, it is of the greatest importance to carefully watch the patient, administer opiates if there be much pain, and keep up for some time firm pressure over the uterus, to ensure its complete contraction. If the powers of the patient are sinking, let stimulants be freely given, until all fear of a further inversion has passed away. Should I have the misfortune to meet with a similar case in the course of my practice, the above treatment I shall most strenuously observe.

Many practitioners recommend the return of

the attached placenta. Such a procedure must be attended with some difficulty, if not danger. A large placental mass would be, where the uterus was completely inverted, a great impediment to its return. In cases where the uterus is only partially inverted, there would be no necessity for the removal of the placenta; the uterus not having passed entirely through the uterus, it would be returned with much less effort and hæmorrhage than in a complete case of inversion. Notwithstanding that Newnham, Lambetham, and others, disclaim against the removal of the placenta, should a like case come under my notice, I shall adopt the practice I pursued in this case, being of opinion that one practical fact is of more vital importance to guide one in the hour of danger, when promptness of action is demanded, than all the subtle reasonings of the most profound thinkers.

Lowestoft, 1859.

#### ON TWO CASES OF OPENINGS INTO JOINTS; FREE ADMISSION OF AIR IN ONE CASE; NO EVIL RESULTS.

By RICHARD BARWELL, Esq., F.R.C.S.

ASSISTANT SURGEON TO THE OWING CROSS HOSPITAL.

Cases occasionally occur which are hardly to be accounted for, and which contradict our previously-conceived notions and acquired experience. Thus wounds piercing into joints are with perfect justice considered dangerous; and the more direct the opening, and the freer the admission of air, the more likely is destructive inflammation to supervene: yet the first of the two following cases will show that wounds of joints are not always productive of so much evil.

On the 14th March last, I saw H. L., a young woman, upon whose knee was a boil, which had been that morning incautiously incised, so that it was feared the knee-joint was opened; the circumstance which led to this suspicion being a plentiful escape of synovia from the wound. The boil was inside the ligamentum patellæ; close to and running parallel with which was an incised wound a little more than an inch long. From this wound synovia oozed, and when the knee was flexed flowed out pretty freely. This flux, however, proved nothing, since, although rather plentiful, it might be produced by the bursa in this situation; therefore, to place the matter beyond all doubt, I oiled and slightly warmed a thin probe, and introduced it with great care and delicacy into the wound, when somewhat to my surprise, it penetrated at once to a depth which clearly showed it to be in the knee-joint. The instrument was withdrawn; a gutta percha splint, slightly bent, was placed on the outside of the limb; and the wound was closed by painting it over with collodion, and then covering it with one piece of soap plaster; the object being, not merely to exclude the air,

but also to prevent the flow of fluid from the wound, which would keep it open.

During the week I saw her once or twice. Not a single untoward symptom arose. I ceased to visit the patient; but have since heard that the wound has healed without any trouble or evil consequence.

The following case is more remarkable, and was kindly sent to me by my colleague, Mr. Canton:—

Henry S., sailor, aged thirty-two, came to me on the 25th of April last, on account of ulcers about the right elbow. Three years ago, while at sea between Madras and Calcutta, there broke out a complaint which he calls "scurvy boils," and several of the crew were affected. He had on several parts of his body boils, which burst and left sores; they were worst on his elbow, and about a fortnight after they had opened into an ulcer, the bone began to get bare. On his arrival at Calcutta he went into hospital. No bone, he says, came away. There is now a large scar at the back of the elbow, the edges of which are ragged and uneven; four small ulcerations have again formed upon this cicatrix, one of which, near its centre, is deep and fistulous. Around this spot the elbow is deformed by a depression, which, judging by eyesight merely, appears to result from absence of bone. On examining the part more closely by touch, it is evident that a part of the olecranon is absent; the portion still left is attached like a sesamoid bone to the tendon of the triceps extensor; between that detached piece and the rest of the ulna is an interval, which corresponds to the depression above mentioned, and which varies in length from three-quarters of an inch, when the arm is straight, to an inch and a quarter, when the limb is bent, and even to nearly two inches, when the cubit is strongly flexed. In the centre of this space is the deep fistulous ulcer already spoken of, out of which synovia flows pretty freely. When he bends and straightens the arm rather quickly, air is alternately sucked into and driven from the opening with an evident impulse, and at the same time the synovial sac is separated from and propelled against the bones of the joint, making a flapping sound like the dry valve of a pump before the water has risen. When he had continued this action some time the joint looked a little swollen, and by pressing it with the hands air could be expelled from the synovial sac. The man experienced no pain nor any stiffness in the joint, and seemed surprised when told to keep it at rest.

The treatment adopted was simply to close the opening into the joint with a piece of soap plaster, and to give iodine internally. The ulcers gradually diminished in size—that leading into the joint very slightly slower than the others. The flow of synovia ceased in about three weeks, and on the 30th of May, he came to say that he was quite well, and about to start on another voyage to the East.

This case is remarkable for the insensibility of the synovial membrane to the contact of air; the secretion from it was, however, more abundant than usual, and was increasing, so that an inflammation, probably chronic and hydropical, would have shortly been established, had not measures been taken to exclude the air, and to prevent the irritating drain of synovia from the sac. The free admission of air into the joint cavity gives rise to considerations which ought to be followed out in their bearing upon that doctrine of a vacuum supposed to be constantly maintained by means of the synovial membrane in the joint cavity, whereby a pressure is exercised on its surfaces. Now it is a certain fact in physics, that when two surfaces closely adapted to each other in shape, are pressed together, there is established between them cohesion of contact. Such a condition in all joints aids in keeping the cartilaginous surfaces together; but this cohesion does not in any way depend upon the bones being surrounded by a membrane in the shape of a closed bag, as the theory runs. It has even been affirmed by some, that if the synovial membrane be punctured, this cohesion is destroyed, and the joint-surfaces may be easily separated. The case just detailed shows the fallacy of such a theory, and that the cohesion of joint surfaces exists, according to the common physical law, only between the parts actually in contact at the moment; and therefore that a vacuum in the whole synovial sac would not assist in retaining the parts *in situ*. That the synovial membrane probably does not form a vacuum at all, may be gathered from the consideration that, if it were so, it would frequently be forced with a pressure of fifteen pounds to the square inch between the joint surfaces, and thus be pinched and bruised—a circumstance which we know very rarely, if ever, happens. Altogether, then, the doctrine of a vacuum in the synovial sac is, firstly, unnecessary; secondly, improbable; therefore should be erased from amongst our physiological theories.

Old Burlington-street, August, 1859.

## ON A CASE OF ANGINA PECTORIS.

WITH REMARKS.

BY J. MOORHEAD, A. M., M.D., Weymouth.

On the 24th of January, 1859, I was requested to visit Mr. —, aged sixty-three, who, I was informed, suffered from some painful affection of the chest. On my entering his bedroom, he suddenly burst into tears, which, however, lasted only a few minutes. Such manifestations of feeling, he said, were quite beyond his control, and had been easily induced ever since he had had two or three slight paralytic seizures several years ago. When the emotional excitement was allayed, he stated that when walking, and especially, soon after meals, he was suddenly

seized with a painful sensation in the præcordial region, which soon became aggravated to an intense degree. This feeling of anguish was accompanied by an aching pain shooting down both arms, and extending even to the tips of the fingers. It came on more particularly when he walked up a hill or against the wind. On the pain becoming so severe as to be no longer bearable, he stood still, and it almost immediately vanished. A similar pang occurred after a little further exercise, and was removed by a like proceeding. During the paroxysm, his breathing, he said, was unaffected.

From these attacks he had suffered for nearly fifteen years; but his disease had latterly become so aggravated that the slightest physical exertion or transient emotion sufficed to induce a paroxysm. The bowels acted only under the influence of aperient pills. He was subject occasionally to flatulency and acidity of stomach, which invariably aggravated the angina, and sometimes, he thought, brought on a paroxysm. His previous treatment chiefly consisted in the use of remedies ordinarily prescribed for dyspepsia, many of the medical men whom he consulted considering this his chief disorder, and the neuralgic pain of chest the effect. Having almost exhausted the catalogue of such remedies, he had been using for more than two months past Boudault's pepsine, from which, however, he had derived no benefit.

On examination of the chest, the percussion-note was found resonant over both lungs, but there was a greater extent of præcordial dullness than usual. The respiratory murmur was natural. There were no cardiac bruits whatever, the only apparent deviation from health being faintness of the heart's normal sounds, with feebleness of its impulse; its beats were rhythmic, and the pulse at the wrist was 92, weak. There was no dyspnoea; no pain or tenderness in the epigastric or hypochondriac regions; no nausea or vomiting; tongue moist, and nearly clean.

During my visit he suffered severely from a paroxysm, which, however, was much alleviated by a dose of opium. Ordered an anodyne liniment, consisting of tincture of opium and chloroform, with compound camphor liniment, to be rubbed into the chest when the pain supervened; also an antacid mixture, containing dilute hydrocyanic acid in two-minim doses, to be taken three times a day.

Jan. 26th.—Feels better, and has not had paroxysms of angina so frequently. When they came on, he states he received much relief from the application of the liniment, and the use of morphia in small and repeated doses; sits daily in the drawing-room; has a slight cough, contracted since last visit. Stethoscope still reveals but negative signs of any cardiac derangement. Repeat mixture.

28th.—About eleven o'clock last night, the patient was suddenly seized with angina, together with dyspnoea, which gradually increased

till the breathing became very short and labored. When I arrived (about one A. M.), the patient presented a haggard, anxious, expression, with rolling eyes, indicative of his acute sufferings and intense dyspnœa. Stethoscopic examination showed a constricted condition of the bronchial tubes, rhonchus and other sonorous râles being everywhere throughout the lungs distinctly audible. The suddenness of the attack, together with the absence of corresponding excitement in the vascular system (the pulse being weak and the extremities cold), led me to believe the dyspnœa as *nervous*, and accordingly I administered the following draught:—Compound tincture of valerian, one drachm; aromatic spirit of ammonia half a drachm; compound spirit of sulphuric ether, half a drachm; solution of muriate of morphia, fifteen minims; spring-water, to an ounce and a half. In the course of a few minutes, great relief was experienced; the rhonchus and other abnormal respiratory sounds could scarcely be detected, while the breathing became comparatively easy. Warm bottles were then applied to the feet, and the hands bathed in warm water. As the angina, however, persisted, the anodyne liniment was rubbed into the præcordia, and solution of muriate of morphia, in twenty-minim doses, twice repeated. These induced sleep for a few hours. During this attack, the pain in the arms was entirely absent.—Twelve o'clock noon: Is free from acute pain, but complains of one of a dull, aching character, in præcordia; has no dyspnœa, but occasionally expectorates a little mucus; bowels confined. Ordered an ounce of castor oil; repeat mixture, substituting for the hydrocyanic acid "*Hoffman's sanodyne*," in half-drachm doses, three times a day.

30th.—Looks better and feels cheerful; has had no return of paroxysm, nor even of dull pain of chest; bowels freely opened by the draught; no dyspnœa, but a slight cough. Repeat last mixture.

Feb. 1st.—In drawing-room, and continues cheerful; still free from angina and dyspnœa; felt himself so much improved that yesterday he took a ride in a wheel-chair, which he much enjoyed; this he had not been able to do for three weeks previously; bowels open without the assistance of an aperient; appetite good; pulse feeble. Repeat mixture.

2nd.—Half-past six A. M.: Yesterday evening, dyspnœa came on, and continued during the night, but, as reported, not of so great urgency as in the former attack. Three small doses of an expectorant mixture were given at intervals, together with warm coffee; but these proving unavailing, a messenger was despatched for me. Unhappily, however, before my arrival, death took place. This event occurred so quietly, that I was assured the attendants were not aware of it till some minutes afterwards. Coupling this circumstance with the fact that the patient was able ten minutes before his dissolution to get up to the night-chair, it may, I think,

be safely concluded that death took place by syncope.

*Autopsy thirty hours after death.* (Assisted by Dr. Smith.)—Cadaveric rigidity strongly marked; body corpulent, the subcutaneous layer of fat being about half an inch in thickness; sternal cartilages partially ossified; large amount of fat in mediastinum; about two ounces of straw-colored fluid in pericardium; about two pints of serum in cavities of pleuræ; no pleuritic adhesions; lungs healthy, but congested. Heart large (weighing seventeen ounces) and very fatty, its surface, especially on the right side, being so covered that its muscular tissue, which was thin and pale, was almost concealed from view, right cavities of heart contained a considerable quantity of liquid blood, the left much less; all the valves healthy and efficient; aorta normal in calibre and structure, with the exception of a very little calcareous deposit in the wall bounding one of the sinuses of Morgagni; the coronary arteries for an inch and a half from their origin were converted into rigid tubes, and presented beyond this, at short intervals along their course, as far as could be traced, specks of calcareous deposit. Stomach contained only a small quantity of liquid; its mucous membrane somewhat congested; otherwise healthy. Liver large and congested; gall bladder contained about an ounce of bile; spleen engorged with blood; kidneys healthy but deeply congested; omenta loaded with fat. Head not examined.

While the foregoing case presents all the usual features of genuine angina pectoris, it has also some peculiar points which, I think, render it worthy of record. The duration of the disease is somewhat remarkable, extending, as before observed, over a period of nearly fifteen years. The most interesting point, however, is the urgent dyspnœa which occurred only on two occasions during that lengthened period. The first attack which I witnessed, on the 28th January, was so decidedly spasmodic that it may justly be assigned to the same cause as asthma, —namely undue contraction of the muscular fibres of the bronchi. This is also shown by the almost immediate relief which ensued upon the administration of the antispasmodic draught. The spasmodic contraction of the bronchi, there is little doubt, was due to irritation conveyed along the motor fibres of the par vagum. What that source of irritation was it is difficult positively to state, but the presumption is that it was the morbid condition of the heart. The implication of the motor filaments of the par vagum would seem to lend support to the theory that supposes *that* nerve, and not the sympathetic, to be the seat of angina pectoris. The absence of pain in the arms and the mild character of the angina during the attack of dyspnœa, show that the irritation of that nerve (par vagum) was then almost confined to its motor fibres.

Without, however, entering further into pathology, it may be stated that the morbid appear-

ances exhibited in the above case were the most frequently found in connexion with this affection. The muscular tissue of the heart was thin and pale, and loaded with fat; while the coronary arteries were distinctly ossified. That these organic lesions excited the irritation of the par vagum which produced the angina can, I think, scarcely be doubted.

The other abnormal conditions may be explained by reference to the phenomena preceding death. The dyspnoea, which continued for several hours, brought on congestion of the lungs, which led to the accumulation of blood in the right chambers of the heart and in the entire venous system. Hence the congestion of all the abdominal viscera. The large quantity of serum in the pleural cavities can only be regarded as a post-mortem product, effusion being no doubt much augmented by the pulmonary congestion.

Although as I have before stated, death took place by syncope, yet it is highly probable, from the great amendment in the symptoms, that that event would not have then occurred but for the dyspnoea. While syncope, then, was the immediate or proximate cause of death, dyspnoea, I believe was its primary or remote cause.

#### REPORT OF A CASE OF ELEPHANTIASIS (CRURIS) SUCCESSFULLY TREATED BY AMPUTATION ABOVE THE KNEE.

By AUGUSTUS EVES, M.D., F.R.C.S.

SENIOR SURGEON TO THE CHELTENHAM GENERAL HOSPITAL.

Mary J.—, aged forty-six years, was admitted into the Cheltenham General Hospital July 27th, 1857. On examination, her left leg and foot were found greatly enlarged, the increase of size being most considerable at the foot, from which part it gradually lessened towards the knee. The enlargement was solid and unyielding to the touch; the cuticle rough and tuberculated. The tuberculated masses were very large on the foot, but diminished gradually as they extended upwards towards the knee. The larger masses appeared to be formed by a coalescence of the smaller ones: thus, at the termination of the disease above the knee, a minute enlargement of the cuticular scales could be observed; lower down, distinct roundish elevations were present; still nearer the foot, these elevations became larger and more irregular in shape, until at last were found the large tuberculated masses before mentioned. The middle of the leg was occupied by a large, deep ulcer, with a smooth, red surface at the bottom, which resembled muscle in appearance, leading the observer to suppose (which, however, was not the case) that the muscular structure was exposed, from the complete destruction of the integuments. She suffered violent pain in the whole limb; she was greatly reduced in strength, yet the chief functions of the body were sufficiently well perform-

ed to justify the hope that, with the removal of the cause of irritation, the system would recover its original vigor. There was an enlarged glandular mass at the top of the thigh, below Poppart's ligament.

The following is an outline of the patient's previous history obtained from herself:—She has been married twenty-two years; has not had any children; her occupation, ironing linen. About twenty-six years ago says she perceived a difference in the size of her feet, but felt no inconvenience therefrom. Her present complaint began about fourteen years back, with swelling of the leg and knee, followed by a small pimple on the outside of the lower third of the leg, which terminated in an ulcer. After this she was subject to varicose veins, which burst four or five times, with great relief to the leg, and slight subsidence of the swelling. She describes the pain as being then very great, piercing and darting, especially in the great toe. This was followed by similar pain in the other toes. She felt at this time very weak, and had great pain in the back when walking. About twelve months ago the swelling increased greatly, and the peculiar tuberculous appearance of the skin, so characteristic of the disease, was apparent. The pain being constant, and feeling herself getting weaker, she applied at the dispensary about the middle of June, where she was ordered cod-liver oil, and was told that nothing could be done for her cure. She was advised to go into the hospital to have the limb removed. She has had a swelling in her groin for four years, which has varied in size, getting larger in the winter.

*Treatment.*—The limb was removed above the knee, by circular incision, on the 7th of August. The veins projected from the divided mass of the stump, and were firm and pulsing, their coats appearing thickened and much altered in structure, and one, if not more, required a ligature. The stump healed well, and she was discharged, greatly improved in health, on November 9th.

*Examination of the limb.*—After removal, by a longitudinal section extending through the length of the diseased parts, the whole of the tissues at the lower part of the limb, from the cuticular surface down to the muscles, were found converted into a structure of a firm, tough, and brawny character. This was about two inches thick near the foot, but gradually diminished in thickness towards the knee; so that, in fact, its terminating point appeared to be in the cuticle; and I have before stated that the external tubercular development terminated in the same gradual manner. The cuticle above the knee was slightly changed, even in the part through which the incisions passed. The muscles were healthy, and, with the exception of the state of the veins observed during the operation, nothing further appeared worthy of notice. I much regretted that I did not obtain a good examination of this diseased structure by an ex-

perienced microscopist; but the elaborate paper by Dr. Allan Webb, to which I shall allude in the course of my remarks, with the minute observations of Dr. Skinner, surgeon to the Governor-General's body guard, embodied therein, supposing that the Barbadoes leg and elephantiasis scroti are identical in their pathology, amply supply all that is required on this point.

*Remarks.*—The infrequency of the disease in this country of which this case is an example, as well as of the use of the means employed for its removal, induce me to place it on record, in the hope that it may not be altogether useless. Before having recourse to amputation in the treatment of this case, I sought information on the subject from several authors within my reach, but was unable to find anything to guide me in the matter, nor, indeed, did I find the subject at all discussed. A feeling hostile to the adoption of the operation in question lingered in my own mind, as I doubt not it still does in the minds of many surgeons, arising probably from the fact that two very different diseases have, by a confusion in the literature of elephantiasis, been included under that term. Firstly, the elephantiasis described by the Greek writers—a disease so formidable that Aretæus and others considered it a universal cancer of the body; and, secondly, the elephantiasis of the moderns, which appears chiefly as a disease of the dermoid and subdermoid tissues, and probably of local origin. I am well aware that in the allied disease—elephantiasis scroti—enormous tumors have been removed with perfect success. Dr. Allan Webb, of the Bengal medical service, in a paper on this subject (*"Indian Annals of Medical Science,"* April, 1855) says, "The disease is most striking and wonderful; tumors of upwards 100lb. in weight are safely removed by the knife in a few seconds by one operation, and in from two to three minutes, preserving intact all the organs of generation." Dr. Webb adds, "Lastly, and most wonderful of all, the very process which heals up this enormous wound, during two months or more, radically cures the disease; if elephantiasis have been in the extremities as well as the scrotum, amputation of the scrotum cures the disease." From these facts, although I was unable to find one recorded case of amputation of a limb for elephantiasis, judging from analogy I thought the operation perfectly justifiable. I must, however, state that I have not seen Dr. Webb's paper, my information on that subject having been obtained from Dr. Ranking's Abstract (vol. xxii.) In all probability, the paper may contain information on the subject of amputation in elephantiasis of the leg; but, on this point, I am of course uncertain. As far as the observation of this single case enables me to judge, I am induced to coincide with the opinion that the disease consists in hypertrophy of the dermoid and subdermoid tissues. The prior links in the chain of causation are variously described by different authors; into this general

inquiry I know your space will not allow me to enter.

I shall therefore close this paper by alluding to the opinions of one or two late writers. In the "*Medico-Chirurgical Transactions*," volume xxx., a very remarkable case of elephantiasis is related by Mr. Southam. The patient, whose general health is said not to have suffered in the first instance, died eventually from dysentery, and the diseased limb was examined after death. The same state of the large veins was present as I have described in my own case. Mr. Southam says, "The principal venous trunks were much larger than usual, distended like injected arteries, and were patulous when divided." He then goes on to describe the thickened and altered state of their coats, and observes that the same appearances existed in the smaller veins, some of which were completely impervious. Mr. Southam regards the pathology of elephantiasis to consist in inflammation of the capillary veins, and considers that the disease bears an intimate relation to the phlegmasia dolens and the sceleroma of infants.

Dr. Skinner, in Dr. Allan Webb's paper, to which I have before alluded, speaking of elephantiasis scroti, says, "It most probably has its origin in an inflammation of the cellular tissue, into whose stretched and enlarged areolæ a fluid is poured out capable of speedy organization. The part never again seems to return to its former dimensions, in consequence of no absorption taking place in this lowly-organized new structure; hence that firm, tough, and brawny character which a section of the older portion of the disease exhibits." Dr. Skinner says he has never seen in these tumors any fibrinous deposits in the veins—any indication of phlebitis or lymphitis. But he alludes to what he designates "the excellent paper of his friend, Dr. Wise," upon this disease, in which Dr. Wise seems to have regarded inflammation of the veins as the chief cause of the malady generally, as well as of the disease in the leg. "He (Dr. Wise) says that elephantiasis is produced by an inflammation of the veins." From these facts and inferences, I think it may be fairly adduced that amongst the elements of the pathology of elephantiasis, disease of some kind of the veins, and consequent derangement of the sanguineous circulation, stand prominently developed.

Cheltenham, 1856.

#### EPIDEMIC SUDAMINA IN A FAMILY OF EIGHT PERSONS.

By GEORGE D. GIBB, M.D.,

PHYSICIAN-ACCOUCHEUR TO THE ST. PANCRAS ROYAL DISPENSARY.

In hot climates, great heat of the skin, with inordinate sweating, are sometimes followed by an extensive eruption of sudamina, which may affect several individuals of a family, as I have witnessed on several occasions. The eruption of small vesicles, filled with an almost colorless

fluid, may come and go for several days, finally subside, and a recovery ensue, with no greater inconvenience than tenderness and slight irritation of the skin for a short time afterwards. The same causes that produce the eruption in a single member of a family, are likely to influence the remainder; and hence it may actually be epidemic in a family without its necessarily extending to other persons.

At the St. Pancras Royal Dispensary, a mother brought to me her child, two years and nine months old, covered over the head, the neck, and the face with a distinct and well-marked sudaminal eruption, the small vesicles being as large as millet seeds, surrounded by a red base, and accompanied by profuse sweating. This eruption had commenced six days before, and had disappeared and become renewed several times; and now isolated groups of the vesicles were appearing on other parts of the body, and in some places (as between all the fingers and on the back of the hands) solitary vesicles showed themselves. The child was cross and fractious, and no doubt suffered from the well-known pricking or tingling sensation so characteristic of miliaria. On looking from the child to the mother, she was found to be suffering from the same thing, but in a milder degree, the eruption being confined to the face and the flexures of the arms. Her other children, six in number, were likewise all, though variously, affected by it: thus, in some, the eruption was chiefly confined to the face, head, and neck; in others, to the limbs; and in one, it seemed to be associated with boils over the hip, rendering her for the time lame.

Here, then, was an entire family affected, except the father, which I attribute to the great heat, and which has so oppressed all of them as to cause their being "overwhelmed with perspiration, actually dripping with it," as the mother described. The sudamina followed upon this, probably induced by copious draughts of water and other liquids taken to assuage the intense thirst consequent on the great drain upon the system by the sweating. Looking upon the disease here as the result of the profuse perspirations produced by the excessive heat on the skin, and not arising from any gastro-intestinal disturbance, I prefer to adopt the name which most truly expresses its general meaning. I have seen violent exercise under great heat followed by the perspirations and sudaminal eruption, which has lasted from two to three days—occasionally only twenty-four hours. If the weather continues warm and oppressive, the duration of the disease may extend to weeks; but the treatment which I have found most serviceable to prevent this, both here and abroad, is small doses of antimonials, nitrate of potass, and tincture of opium. The last is greatly serviceable in quieting the irritation; the first checks the perspiration, and the tendency to get rid of fluid is relieved by the kidneys.

The mother and children greatly improved

under the treatment pursued, the eruption dying off the head, face, and neck, but it was followed by scattered boils in various parts of the body. Before the mother got better, the eruption extended along the anterior part of the arms to the hands, then appeared on the back of the arms, and finally upon the neck.

Portman-street, Portman-square, 1859.

#### CASE ILLUSTRATIVE OF THE POST-MORTEM ACTION OF THE GASTRIC JUICE ON THE STOMACH AND DIAPHRAGM.

By W. GRANT, M.B.,

ASSISTANT-SURGEON H.M. 31ST REGIMENT, POONA.

Private Edward V—, of H.M. 31st Regiment, aged thirty, has been in the service for five years; was a shoemaker by trade before his enlistment; has a fair complexion; is a stout-built, middle-sized man, of rather strumous appearance. He was admitted into the Regimental Hospital, Poona, on the 15th of March last, complaining of acute headache, with vertigo, nausea, heat of skin, thirst, &c.; tongue foul; bowels irregular; pulse 96. He was treated with aperients and quinine, and, in three days after was convalescing, when he had an attack of slight catarrhal ophthalmia from sleeping near an open window. From this affection he made a satisfactory recovery, and was discharged for duty on the 24th of March.

On the morning of April 1st, he was re-admitted, complaining of headache, and seemingly much in the same state as on the 15th of March. Soon after admission, he had a severe rigor, accompanied with most acute throbbing pain in the right side of the head. He was ordered some calomel and James's powder, followed in three hours by a dose of compound powder of jalap, with sulphate of quinine. After the action of the purgative, he felt considerably relieved.

On the morning of the 2nd of April, he complained of shooting pain in the right eye and ear, and along the right side of the face, and tenderness on pressure over the scalp on the right side. Leeches were applied to the right temple, and, in the evening, he had a warm bath, followed by ten grains of Dover's powder, and a large blister behind the right ear.

Next day the pain had in a great measure subsided. The blister had acted well, and was ordered to be kept open. From this time up to the 13th he seemed to mend slowly. He had occasional pain in the head of a shooting character, but said he felt himself recovering. He had no chest nor abdominal symptoms of an upward nature, and was able to eat some arrow-root, or beef-tea with a little bread, from time to time. He was taking two grains of iodide of potassium, with an ounce of infusion of chiretta, three or four times a day, and an occasional aperient.

On the evening of the 13th of April, he lapsed into a state of coma, and his pulse became



slow and labored. From this time he never rallied, but died on the 15th of April, at seven A.M.

*Section cadaveris five hours after death.*—General appearance of the body: Limbs and trunk well developed and muscular; marks of leeching and blistering on the right side of the head; no other cicatrices or marks on any part of the body. Head: On opening the skull, the dura mater was found adherent to several portions of the right hemisphere of the brain by processes of well-organized lymph. On removing the brain, an abscess, of the size of a hen's egg, containing thick pus, was found in its substance, just over the petrous portion of the right temporal bone, the subjacent part of which was in a state of caries. The lateral ventricles contained a quantity of grumous-looking serum; choroid plexus much congested. The rest of the brain seemed healthy. Chest: No pleuritic adhesions on either side; the left pleural cavity contained nearly a pint of blackish, fluid blood; the lungs had a few crude tubercles scattered throughout their substance; their posterior portions were engorged with blood; pericardium and heart healthy. The diaphragm presented a remarkable appearance; it contained a large ragged aperture, with dark edges immediately to the left of the spinal column, and, further to the left, a small aperture of a similar character. The stomach, which seemed lacerated, protruded into the thoracic cavity through the larger opening in the diaphragm. Abdomen: No traces of inflammation in the peritoneum; intestines much distended with flatus. Nearly the whole of the stomach, at its great curvature, seemed to have been dissolved away by the post-mortem action of the gastric juice, and this process appeared to have extended to the diaphragm; the edges of the aperture in the stomach were of a blackish or deep ash-grey color, soft, and very ragged. The vessels in some parts of the remaining mucous membrane, presented a peculiar brownish, arborescent appearance. (There were no traces of inflammation in the mucous membrane of the œsophagus.) The liver, spleen, kidneys, and other abdominal viscera were perfectly healthy.

*Remarks.*—In the greater proportion of cases where extensive solution of the stomach and neighboring parts by the post-mortem action of the gastric juice has been found to exist, the individual had died shortly after having taken food into the stomach; but in this instance, nothing in the shape of food, except an occasional teaspoonful of weak wine-and-water, had been taken after the evening of the 13th, nearly thirty-six hours before death. It is probable that an excessive elimination of the gastric secretion was produced, through reflex action, by the diseased brain, as suggested by Dr. Budd. The chemical action would also take place more readily in a climate of high temperature, where the heat of the body is longer retained. The temperature in this case was 76° Fahr. in the

shade at the time of death, and 94° when the examination of the body was made. The protrusion of the stomach into the thorax (which, according to Dr. Alfred Taylor, uniformly takes place in extensive wounds of the diaphragm during life) was most probably produced by the gaseous distension of the intestines. The blood found in the left pleural cavity must have oozed from the severed edges of the stomach and diaphragm.

Bombay, May, 1859.

## ON THE TREATMENT OF SCARLATINA BY MEANS OF IODINE.

By W. REEVES, Esq., M.R.C.S., Carlisle.

I have often had to complain that many of the preparations of iodine as directed for use in our Pharmacopœia are too potent. Use the compound iodine ointment of the Pharmacopœia, and you will produce vesication, which will prevent a second or a third application. The same with the simple tincture—it cannot be applied very well without dilution. It will be well for the concoctors of any new Pharmacopœia to consider this subject before recommending these preparations for ordinary use. I find the compound iodine ointment most useful with only about one grain and a half or two grains to the ounce; and of the simple tincture, twenty or thirty grains to the ounce is strong enough for any purpose. I have used these preparations so frequently in the sore-throat of scarlatina, and in ordinary cynanche, that I speak from ample experience, and without fear of correct contradiction.

I do not see these preparations recommended for these affections as I use them, and therefore I will lay a brief account before you.

In my time, we have had severe epidemic attacks of scarlatina; and having a large union practice, it became of importance—to me a personal consideration—to adopt the most efficient treatment, otherwise the cases would have so accumulated on my hands that due attention could not have been bestowed on them. I early made up my mind to look upon scarlatina as a disease of effusions, and adopted iodine as the basis of all treatment therein. The tincture of iodine freely applied to the throat by means of a feather, the iodine ointment applied outwardly over the glands, and an iodine mixture given inwardly, formed my staple treatment, and no other treatment did I find so efficient. In the early stage of the throat affection, if I were so fortunate as to see the case then, I painted the throat both inside and outside with the tincture, and then applied the iodine ointment; and very seldom, where this was done early enough, was I troubled with a serious throat complication. In some cases, where the tonsils were enlarged so as to interfere with easy respiration, I exercised them with so much advantage that patients who had not slept for days from inability to

breathe, fell asleep immediately after the operation, and rapidly recovered.

Taking the view I do of scarlatina, as soon as I was satisfied as to the case, I gave the following mixture, varying the dose according to the age of the patient; and, in the kidney complication with anasarca, I must say I have not seen it fail to cure where a probability of recovery was left—that is, where the case was not hopeless:—Iodide of potassium, a drachm; iodine, two grains; chlorate of potash, a drachm; nitrate of potash, a drachm and a half; aqueous solution of potassa, a drachm; water to eight ounces: from a teaspoonful to a tablespoonful, according to age, every four hours.

In ordinary cynanche tonsillaris, which to some people is so troublesome, affecting them two or three times in the year, the iodine application, both directly by means of a feather and by means of exhalation, is most serviceable; and I could mention twenty cases or more where, by perseverance in this remedy, not only have the patients recovered more speedily than otherwise, but the disease has ceased to recur, which is a recommendation that is not despised by those subject to sore-throats, and which they look forward to as ordinary ills to be endured periodically without any help for it.

So much for one remedy, and there are no other remedies in this disease at all to compare with it; and as my object has been simply to talk of iodine, I leave other considerations for another time.

July, 1849

#### A REPORT ON TWENTY-TWO CASES OF DIPHTHERIA.

By EDWARD B. BOGGE, Esq., M.R.C.S.E., &c.,  
Newthorpe.

As it cannot be deemed otherwise than desirable to increase as far as possible our acquaintance with the recent formidable epidemic of diphtheria, I hasten to bring my quota to the general stock by giving a few particulars of twenty-two cases which have fallen under my own notice.

The village of Kimberly, Notts, where most of the following cases have occurred, is chiefly composed of miners' cottages, closely packed, badly arranged, and worse ventilated. It is situated on a ferruginous, sandy soil, and is partly built on an elevation, and partly on what is emphatically called "the Flat;" and it is worthy of remark, that while diphtheria was rife in the latter locality, and carrying off large numbers of children, only four cases came under my notice on the hill, and they all recovered. Moreover, in the cases that occurred in other villages, I invariably remarked the presence of coal-pit reservoirs, open drains, or stagnant pools in the immediate neighborhood of the houses where my patients resided.

All my patients were children, from four to

nine years of age. Their parents were chiefly miners whose good wages led them not to feel any *res angustæ domi* as far as abundant food and warm clothing go, so that I cannot affirm that the children were badly nourished.

There was a wide spread epidemic of measles coincident with that of diphtheria, and the two diseases often attacked the children simultaneously or in succession. Where this was the case, I found that the child was generally first taken ill with the measles, and that on the fourth or fifth day of the fever (the eruption being profuse and fully out) the parents were first led to notice the presence of sore-throat in the child by the sudden and alarming swelling and tenderness of the parotid and submaxillary glands, together with the manifest distress and often total inability to swallow solid food.

My treatment was the same in all my cases, so that its results may afford some estimate of its value. I had the patient removed to an airy room, and the ventilation made as free as circumstances admitted. I ordered the following mixture:—Chlorate of potash, half a drachm; tincture of sesquichloride of iron, forty minims; chloric ether, one drachm; water, to two ounces: two drachms four times a day (for a child five years old). I applied a solution of nitrate of silver (half a drachm to one ounce) to the fauces daily. I also took a hint from a paragraph in *THE LANCET* headed "Domestic Tubage of the Larynx," and directed the introduction of a dry feather into the fauces every two hours, which plan, I found, greatly relieved the child, by ridding it of a large quantity of the obnoxious deposit, and was, I am convinced, a most useful adjunct to other remedial measures. I was obliged to discontinue the use of hydrochloric acid internally, as I found it tended to increase the viscosity of the saliva, and so to add greatly to the discomfort of the patient. For diet, I ordered port wine every hour, warm milk, yolk of eggs beaten up in wine, strong coffee, beef-tea, veal-broth, white-wine whey, and decoction blanche, with a liberal allowance of chloride of sodium in every kind of food. I am so convinced of the efficacy of this treatment, that were I ever to suffer from diphtheria, I should wish no other plan to adopted in my own case.

A letter appeared in *THE LANCET* some time ago, in which the writer expressed his belief that diphtheria was a sort of internal erysipelas. In reference to this point, I may remark that in Cases 21 and 22 of the table I ordered sinapisms, and a hot bath with mustard in it, and that in each case the use of these applications brought out an abundant crop of measles on the fourth day of illness, after which event the patients quickly recovered. I allude to this because I think the writer of the letter I mention may have been misled by a similar circumstance into the belief that diphtheria is not a specific disease. In the following table the column headed Duration includes the time between my

first notice of the exudation and its disappearance :—

*Tabular view of Cases.*

No.	Sex.	Type of Disease.	Duration.	Idiopathic.	Coincident with Measles.	Termination.
1	F.	Malignant	5 days	1	...	Death
2	M.	Croupal	15 "	...	1	Recovery
3	F.	Malignant	12 "	1	...	Death
4	M.	Croupal	8 "	...	1	Recovery
5	M.	Ditto	5 "	1	...	Death
6	M.	Ditto	5 "	...	1	Recovery
7	F.	Simple	5 "	...	1	Ditto
8	M.	Malignant	5 "	1	...	Death
9	F.	Simple	10 "	...	1	Recovery
10	F.	Malignant	7 "	1	...	Death
11	F.	Ditto	12 "	1	...	Recovery
12	F.	Croupal	5 "	1	...	Ditto
13	F.	Malignant	6 "	1	...	Death
14	F.	Ditto	5 "	...	1	Ditto
15	M.	Simple	4 "	...	1	Recovery
16	M.	Croupal	6 "	...	1	Ditto
17	M.	Simple	5 "	...	1	Ditto
18	M.	Croupal	5 "	...	1	Ditto
19	F.	Malignant	9 "	...	1	Ditto
20	F.	Ditto	9 "	1	...	Ditto
21	F.	Croupal	5 "	...	1	Ditto
22	M.	Malignant	5 "	...	1	Ditto

From this table it will be seen that—

1. The proportion of sexes attacked was 12 females to 10 males.

2. The relative frequency of the different types of disease was as follows:—Simple, 4; croupal, 8; malignant, 10.

3. The average duration of the disease was 7 days, 15 days being the longest period, and 4 the shortest.

4. The average duration of the fatal cases was 6½ days, the longest period being 12, and the shortest 5 days.

5. The number of idiopathic cases was 9, or 41 per cent.; and the number of recoveries was 8 out of the 9, or 88 per cent.

6. The number of cases occurring in connexion with measles was 13, or 59 per cent.; in which 1 died, or 7½ per cent.

7. In the 10 malignant cases 6 died, or 60 per cent.

8. In the 8 croupal cases, 1 died, or 12 per cent.

9. The total number of deaths was 7 out of 22, or 32 per cent.

10. Of the idiopathic cases, 7 were malignant and 2 croupal; so that it is evident that in idiopathic diphtheria the chances that it will be malignant are as 7 to 2, and the chances of death are as 2 to 1.

August, 1869.

#### OPERATION FOR STRANGULATED HERNIA IN AN INFANT, AND FOR HYDROCELE.

By JOHN DUNLOP, L.R.C.S.I.,

URGENT OFFICER TO THE CROAGH DISPENSARY, BALLYCASTLE UNION, ETC.

In THE LANCET of June 11th\* appeared an article headed "Remarkable Circumstance occurring in a Case of Strangulated Hernia," by Mr.

Barwell. On the 16th of last month I operated upon a child aged one year and nine months, laboring under strangulated congenital hernia; in which case the appearances during the operation were strikingly similar to those exhibited in that of Mr. Barwell.

J. McG— applied to me about eight months since for a truss for her infant, who was affected with congenital oblique inguinal hernia on the right side. Having with great ease reduced the bowel, which filled the scrotum, I applied a truss, and gave the mother directions as to the future management of it. I did not see the child again until the 16th ult., when his mother stated that during her absence from home on the previous night the truss had been taken off. In the morning a small rupture having appeared, the truss had been applied over the tumor without having first returned the bowel. On the evening of that day I saw the child, when all the symptoms of strangulated oblique inguinal hernia presented themselves. The tumor was of large size, very tense, and distending the entire scrotum, which was of a reddish tinge. Being unable to effect reduction by means of the taxis, &c., I proceeded to operate, being kindly assisted by my friend, Dr. O'Connor, of Ballycastle. The operation was proceeded with in the usual way. The tunica vaginalis was found to be very tense and thick, and filled with a gelatinous, semi-transparent mass about the consistence of healthy brain, one inch and three-quarters in length and one inch in diameter; and a small knuckle of intestine, of deep-purple color, was found strongly attached by adhesions to the surrounding parts. Having, with great caution, broken down these, and divided a very tight stricture at the internal ring, I returned the bowel and closed the wound, which rapidly healed by the first intention. The child is now in all respects perfectly well.

In the above case I have no doubt that the peculiar gelatinous mass was caused by fluid effused from the tunica vaginalis, the watery parts being afterwards absorbed by the great amount of inflammation caused by the improper adjustment of the truss. That such has been the fact, I think the following case fully proves:—

W. M—, aged twenty, came to me on August 8th, 1854, complaining of a very large hydrocele. I recommended an operation for the radical cure, to which he strongly objected. I then treated him with counter-irritants, iodine frictions, &c., applied to the scrotum. When under this treatment for two months, the hydrocele became much smaller, fluctuation less distinct, and when examined by a candle it appeared more opaque. Wishing to be married, he at last consented to an operation. Upon introducing the trocar, no fluid appeared. I then introduced a sharp-pointed probe through the canula, and moved it in every direction, when, much to my satisfaction, about four drachms of fluid passed through the tube, of the same color

\* Vide Aug. No. page 100.

and consistence as that mentioned in the first case. I then injected the hydrocele with a solution of sulphate of zinc (a drachm to a pint of water), since which time the patient has enjoyed perfect immunity from his old complaint. He was married seven weeks after the operation. In this case the watery parts had evidently been absorbed, the inflammation being caused by counter-irritants, as in the first case by the truss.

— Craig Bushmills, Co. Antrim, July, 1869.

## ON CHLOROFORM IN LITHOTOMY AND AMPUTATION.

By JAMES ARNOTT, M.D.,

There is not, probably, in the history of medicine, any instance so remarkable of extreme diversity and rapid change of opinion on a practical point as that furnished by the revival and subsequent progress of etherization. When Dr. Hickman, about five-and-thirty years ago, suggested the production of insensibility in operations by the inhalation of carbonic acid (a method again very lately recommended by a French physician), it was declared to "be utterly impossible to find any surgeon so great a fool, and so unwarrantably bold, as to undertake an operation on such terms." The subject was brought before both the Royal Society in London and the Academy of Sciences in Paris, but neither of these learned bodies paid the slightest attention to it, notwithstanding that many of their members must have been aware of the experiments with carbonic acid made on dogs, a hundred years before, at the Grotto del Cane, near Naples, and, what is still more singular, notwithstanding that Dr. Hickman's paper was read at the Royal Society by Sir Humphrey Davy, who had himself, twenty years before, suggested a similar expedient.

Fortunately, about twenty-five years after this proposal of Dr. Hickman, the idea occurred to Mr. Horace Wells, that the sudden and extreme intoxication produced by the inhalation of the gas which had been suggested by Davy might produce an insensibility as complete as that which follows extreme intoxication from alcohol, without its immediate and ultimate dangers. In prosecuting the inquiry, he did not, like Dr. Hickman, confine himself to speculation and experiments in animals. He boldly tried his method on his patients, and found that as respected the insensibility, his opinion was perfectly correct. As no danger, either immediate or remote, had as yet been discovered, his invention, modified and improved by one of his pupils, was received with much applause, and at once pronounced to be only second, to, if not the equal of, vaccination. Dr. Simpson, who merely substituted one intoxicating vapor for another, was deemed to have made an important medical improvement, and the statistical evidence which he adduced to show that chloro-

reform saves life as well as pain was eagerly received as conclusive proof of its inestimable value.

Before ten years had elapsed, a great change had occurred in the opinions of surgeons. The fallacies of Dr. Simpson's statistics had been detected, about a hundred sudden deaths had been reported as having occurred from the administration of ether and chloroform, and a rule had been very generally adopted not to employ either of these substances except in the severer operations. Sulphuric ether is again resorted to in lieu of chloroform in many parts of Europe and America, and a proposition lately brought forward in the Medical Society of Lyons, that chloroform should be altogether abandoned, was adopted without one dissentient voice. A persuasion, founded on their knowledge of its use in their own city, that by far the greater number of accidents from chloroform have been concealed, appears to have had considerable influence on the members of the society in producing this decision.

In the above observations allusion has been made to two kinds of danger from etherization—that which is immediate and that which is remote. The latter, or the effects of anæsthetic vapors on the results of operations, can only be discovered by statistics. When a comparison is made between the results of lithotomy on the adult and amputation of the larger members performed before and since the introduction of chloroform, we find that there has been a great increase of mortality during the latter period. The published statistical facts or data which have been used in this comparison are sufficiently numerous for the purpose, and great care has been taken that the other essential points in statistical evidence, as well as the number of facts, should be duly regarded. Those who have opposed this opinion of an increased mortality have also had recourse to statistics, but they have erred in several respects in their employment of them. In all of their reports, the number of the data adduced is much too small to justify their drawing inferences from them, especially when these are opposed by inferences drawn from a ten-times greater number of facts. The returns brought forward, not having been previously published, and having been drawn up by themselves for an especial purpose, are deficient in authenticity; and there is dissimilarity between the facts compared. In some of these reports there are still greater errors, proving that their authors could not have anticipated any very strict criticism; and they are well adapted for preventing the due weight that ought to attach to extended and accurate calculation. A cursory reader is easily so misled, and in this way only can I account for Mr. Skey's assertion, in his recently published treatise on Operative Surgery, that the evidence of an increased rate of mortality after the severer operations since the introduction of chloroform is not satisfactory. Medical evidence is

proverbially uncertain; but it cannot be denied that no point in medicine has been more clearly proved than that of an increase of mortality from chloroform.

The rate of mortality after lithotomy in the adult was formerly (calculating from 775 cases) 22½ per cent. For several years past, in London, "the cures," to use the expression of Sir R. Brodie, "have been balanced by the deaths." By an elaborate statistical report lately published, it appears that the mortality after these operations in the London hospitals is more than 50 per cent.; and that the explanation which has been attempted of this great mortality—that the more favorable cases have been selected for lithotomy—is perfectly unfounded. Only a few cases have been operated upon by lithotomy, and it has been adopted in many of these because they were deemed unfavorable for lithotomy.

From a subsequent report by the same inquirer, we learn that lithotomy in the adult has not, during the same period, been nearly so fatal in the provinces as in London; in these the mortality has been only 25 per cent. But when this fact is recorded, it ought to be mentioned, also, that chloroform has fallen into disuse in several of the provincial hospitals. Mr. Smith, senior surgeon of the Leeds Infirmary, and whose success as a lithotomist has been very great, informs us, in his recently published lectures on Lithotomy, that the fatal results of capital operations have been much decreased in that institution since chloroform has been sparingly employed; and to this change of practice, probably, as well as to his peculiar manner of forming the flaps, may be the remarkable success of Mr. Teale's amputations be due.

That so fatal an operation as lithotomy on the adult under chloroform should be persisted in, is, it must be acknowledged, a very extraordinary fact. Whether chloroform would have an equally injurious effect on the result of the dilating operations for stone remains to be ascertained. It is probable that it would not; and by its aid the great objection to such operations—namely, their painful protraction—would be overcome, it is to be hoped that they will now be more frequently performed. In the Marian operation the parts were doubtless often severely bruised and torn by the rapidity with which it was performed, as well as by the imperfect dilating means employed. The argument against the revival of the dilating operation was much stronger before the introduction of chloroform than it now is. The cutting operation was then more than twice as successful as it is at present; and no means existed for preventing the pain that would be caused by dilatation effected with moderate speed. That the finger alone will dilate sufficiently in the cases of children, and in those of adults where the stone is small, has been proved by the experience of Mr. Alarton, De Borsæ, and others; but when the prostate is unyielding and the stone is large, a

dilator of fluid pressure should be substituted. If chloroform be used with such an instrument, and the operation be thus rendered painless, there will be no necessity for a dilatation so gradual and slow as would otherwise be advisable. Even granting that it were so quick as to tear, I question whether the danger of the operation would be nearly so great as that of the present proceeding. The more resisting parts only would be torn; the more yielding would be stretched. The danger, therefore, of urinary infiltration and, perhaps, consequent pyæmia would be less. The use of a blunt instead of a sharp knife in lithotomy would have, to a certain degree, a similar advantage.

I am glad to perceive, by a dispute respecting priority in a contemporary journal, that the attention of accoucheurs is now being directed to the advantages of fluid pressure as a dilating means in midwifery. I have often averted to its utility in this department of medical practice. The difficulty to be overcome will, as in its employment in strictures of the passages and in stone, be the construction of proper instruments. For this the practitioner will be obliged to rely on his own mechanical dexterity.

Chloroform appears to be injurious in amputation in proportion to the danger of the operation itself, whether this proceeds from the particular amputation performed, the injury or disease requiring it, or the general condition of the patient. The danger from amputation of the forearm, in a healthy subject, is probably very little augmented by the depressing action of this agent; but that from amputation of the lower extremity, in an unhealthy patient, may be more than doubled by it. When the data accumulate, it will be possible to judge of the effects of chloroform in various amputations and under various circumstances. At present they are only sufficient in number to show that the average mortality from all the severer operations of this description is greater by more than ten per cent. than before the introduction of chloroform.

It is almost unnecessary to remark that the fact of the injurious effects of chloroform or ether on the results of the severer operations is not a reason why it should never be employed in them. Patients may refuse to submit to such operations unless they are performed under complete anæsthesia; and it must be confessed that, on certain occasions, only a limited degree of insensibility can be produced by local and safe measures, although applied in the most dexterous manner. The objection, however, which has been made to congelation in amputation, that even if its anæsthetic action were rendered complete by combining pressure with it, the peculiar nature of such wounds might prevent their healing favorably after its use, does not appear to be well founded. Mr. Robert, of the Hôtel Dieu in Paris, states in the *Moniteur des Hôpitaux* of the 7th April last, that "he has often recourse to congelation in amputation of

the fingers and toes, and that he has never seen any troublesome consequences." No objection can be made to the use of cold for rendering the outer or more sensitive textures painless. Were its action limited to these, a great advantage would be gained; for with its anæsthetic there is combined a powerful antiphlogistic virtue. The swelling of the part from effusion of serum in its looser textures, caused by a deeper congelation, might oppose union by the first intention, unless care be taken to have a redundancy of skin; and the subsequent dressing of the wound must then be suitably modified. When congelation is properly used, under common circumstances, it greatly promotes the healing process; its improper use may have the opposite effect.

York-street, Portman-square July, 1859.

### INTESTINAL FEVER ESSENTIALLY CONTAGIOUS.

By WILLIAM BUDD, M.D.,

SENIOR PHYSICIAN TO THE BRISTOL ROYAL INFIRMARY.

"La faculté contagieuse de l'affection typhoïde, me paraissant démontrée par les faits, je l'admets sans hésitation."—LOUIS.

#### INTESTINAL FEVER, COMMONLY CALLED TYPHOID FEVER: MODE OF PROPAGATION.

(Continued from Sept. No., p. 203.)

I shall not weaken by any lengthened commentary the force of the facts that have now been related. Occurring, for the most part, under the eye of a single observer, and open to no ambiguity from any quarter, they fulfil every condition that can be required of evidence in such a case; and, in spite of all that has been asserted, and is still maintained, to the contrary, in high places, prove beyond question that this fever is an essentially contagious fever. If need were, it would be easy to show, by the severe logic of mathematical deduction, that to attempt to explain them on any other principle would not only be absurd, but outrageously so. But it would be a waste of time and power to demonstrate by elaborate methods what the common reason apprehends at once.

The facts tell their own tale, and tell it in language so plain, that it cannot be misinterpreted.

Nor must it be supposed that the facts themselves were in any sense exceptional. Instances of such wholesale infection as some of those adduced are, no doubt, only to be met with under particular circumstances of season, place and habits of life. Instances equally decisive as to the propagation of the disease by personal intercourse abound. So true is this, that I could easily multiply to an indefinite extent, from my own experience, cases in which this fever was imported into previously healthy districts, and there disseminated by persons who had contracted it in distant places. Indeed, I can safely affirm, that while I continued in country practice, a period that included nearly seven

years, it scarcely ever happened for three months to pass away without cases of this fever coming before me, under conditions that contained the most decisive proof of communication by contagion.

Now I need scarcely add, that of the various properties that can be shown to belong to any given malady, this one, of all others, is incomparably the most important. In the first place, it is clear that, in a far higher sense than can attach to any other conceivable property, this mode of propagation sets upon a disease the stamp of a specific nature. In order to appreciate its full significance in this respect, we must not forget that, like the other contagious fevers, this, in particular, not only propagates itself, but, if common observation can be trusted in such a matter, propagates no other kind. In the numberless cases in which I have seen this fever palpably spreading by contagion, the offspring has always borne the same specific marks which distinguished the parent; and one case has followed another with the same constancy of specific type with which small-pox follows small-pox, or measles succeed to measles. It is well known, in fact, that there are many countries in which continued fever is not only common, but rife, and in which this particular kind is the only kind that occurs. But *to propagate itself and no other*, and that in a series of indefinite progression, constitutes the essence of the relation on which the very idea of species is founded. How much this implies in the animal and in the plant we all know. It is strange that what it implies in the case of disease should be so seldom recognised.

"That," saith Hooker, "*which doth assign to each thing the kind; that which determineth the force and power; that which doth appoint the form and measure of working, the same, we term a LAW.*" If these be the true titles to the designation of law, the law of propagation by contagion, as exemplified in the great group of fevers, not only possesses them all, but possesses them in an intense degree. This becomes more and more clear the more deeply we seek to penetrate into what is involved in the fact.

In the case before us there can be no ambiguity as to what the fact really implies.

The existence here, *as in the other contagious fevers*, of a latent period after the occurrence of infection; the exemption conferred by one attack against any future attack; and, lastly, the immunity of large numbers of persons, who, though freely exposed to the fever poison, yet remain proof against it,—are characteristics of which the significance cannot be doubtful. All three are characteristics of a very special order, and spring from a common root. Of the last-named of the three as of a thing patent to all, nothing more need be said. In offering some observations on the first and second, I am aware that I am laying myself open to the charge of illustrating what is already familiar, and of undertaking to prove what is already admitted.

But if I transgress in doing so, I will, at any rate, endeavor to be brief.

Of the occurrence of a latent period, several well-marked illustrations have already been incidentally recorded in this paper. To these I shall content myself with adding the three following:—

(a) In the autumn of 1854, intestinal fever broke out in a school for young ladies at Taunton, and spread so much that it became necessary for the time to "break up." Amongst those who were sent to their homes was a young lady named O——, whose family lived at a farm in the country a few miles from Bridgwater, in an isolated spot. For more than a week after her return home, this young lady appeared to be in her usual health. On the tenth day after her arrival she was seized suddenly with intestinal fever, which laid her up for several weeks, and very nearly proved fatal to her. There was no other case of fever at the time in the neighborhood of her home, and she was the only inmate of it who suffered.

(b) In the month of March, 1853, I was called to attend a family in Park-street, Bristol, in which two children had been affected one after another with intestinal fever. At my suggestion, a third, a little girl eight years old, who had hitherto escaped, was sent into the country to a neighborhood where no fever was. Here she remained for three weeks in entire separation from her friends, and with little or nothing amiss. At the end of the third week she began to droop, and in the middle of the fourth she was brought home with all the characteristic marks of the fever upon her.

(c) The third and last example is taken from the outbreak of intestinal fever which occurred at the military school of La Flèche, in 1826. In this example, the peculiarity of the circumstances gave a scientific clearness and precision to the facts but rarely met with in medical evidence. The fever first broke out in the school in the month of July, and did not cease until 109 students had been attacked by it. Amongst those who suffered were 26 who had been sent to their own homes in distant parts of France, in vain hope that they might thus escape the disease which was spreading amongst their comrades. These 26 young men were, to all appearance, perfectly well when they were sent away, and continued to be so for more than a week afterwards. In the second week they began to droop, and before the week had ended they were all laid up with intestinal fever. As it may be considered certain that these 26 subjects contracted the fever at the school, it is plain that the poison must have remained latent in their bodies at least a week or ten days.

Of the existence in this, as in all the other contagious fevers, of the remarkable immunity which one attack confers against any future attack of the same malady, the evidence, although requiring more pains to collect, is not less con-

clusive. M. Bretonneau, who was the first to draw attention to this remarkable and all-important characteristic, avers that for a period of thirty years he had never seen an instance of this fever occurring twice to the same person.\* In regard to the same point, Chomel† expressed himself in the following terms, which, precise and decided as they are, acquire additional weight from the well-known scrupulous accuracy of the writer:—

"We have already said that typhoid fever, in ordinary circumstances, only affects the same individual once. This appears from all the facts hitherto recorded. From the time when physicians began to make special and consecutive researches on this malady, no authentic instance to the contrary has been observed, although the number of cases of typhoid fever annually studied is so considerable that examples of recurrence must have been met with, had the disease been susceptible of occurring more than once in the same subject. Although in interrogating our patients we have always taken care to call their attention to this point, they have never answered in a manner to lead us to believe that they had already had the disorder; and, after all, even were some opposite facts now and then found in a disease of such great frequency, a few exceptions would have nothing extraordinary in them, and would not destroy the kind of *law* which has just been enunciated; for small-pox, scarlet fever, and measles, which ordinarily attack the same individual once only, recur sometimes, especially in great epidemics of these disorders. It would not, therefore, be astonishing if examples of the same kind were now and then met with in the case of typhoid fever."

Louis, who on all points relating to the natural history of this fever is the greatest of authorities living or dead—whose monograph on its unique in medicine is a model of elaborate research—and whose conscientious accuracy is only paralleled by his slowness of belief, declares himself to the same effect in language which is the more striking from the contrast it presents to the caution with which he expresses himself on most other subjects.‡

Amongst many illustrations of the fact which he cites from Gendron de l'Eure, especially remarkable is the case of the town of Caumont, which was swept twice by an epidemic of this fever, with an interval of eight years between, and in which all the persons who were attacked with the fever in the first visitation were spared in the second.§

I may add that my own experience is in entire accordance with that of these distinguished writers. For seven years, I made careful inquiries as to the point in question in every case of this fever that fell under my charge; and

\* See Archives Generales de Medecine, 1st series, vol. xxi., p. 62.  
† Leçons de Clinique Médicale, p. 333.

‡ See Recherches, &c. sur la Maladie connue sous les noms de Fièvre Typhoïde, &c. Vol. II., pp. 271, & 16. 1st Edition.

§ See Archives Generales de la Médecine 1st series. Vol. x., p. 362. The epidemics referred to occurred in 1820 and 1823.



during the whole of that period, although my range of observation included two great epidemics, in addition to a large average of fever patients, I only met with three subjects in whom there was reason to believe that the disease had ever occurred before. To these three I added a fourth in my own person shortly after.

During the same period, I was constantly meeting with persons who, having once had the fever, remained perfectly well under prolonged and intense exposure to its specific poison, while all around them were falling victims to it. Of such persons, I have many still vividly in my mind who, by the very accident of having acquired in this way an exemption which none around them possessed, continued to perform, for weeks, and sometimes for months together, the exhausting and dangerous office of nurse to the other members of an infected household, and who, nevertheless came out harmless.

In reference to the four who were not so fortunate, it is only necessary to remark, that in no one of the contagious fevers is the protecting power of a first attack absolute. In the space of the same seven years, indeed, in which these cases came before me, I met with five others in which *small-pox* happened twice to the same person. And yet that, as a rule, *small-pox* occurs only once in life, is a fact established on a larger basis than any other fact in medicine. The occurrence of exceptions in a case of *small-pox* is, therefore, *the best possible proof* that the occurrence of similar exceptions in the case of intestinal fever does not invalidate the remarkable law in which both participate.

I shall have to recur to all these points in another place. I have already said that their real significance cannot be doubtful. They define at once, indeed, the position and natural affinities, as well as the true pathology, of the disease to which they belong. For had we no other light than that which is afforded by them, we should see clearly enough that in the specific cause of this fever we have to deal with one of that remarkable group of poisons which, in order to produce their specific effects, require in the human body not only a subject for their action, but *conditions for their growth and development*. This is a conclusion of immeasurable importance to the inquiry in which we are engaged. That the operation of all the poisons belonging to this group is entirely dependent on their own reproduction in the living body, may, I repeat, be inferred with great certainty from the relations on which we have just been dwelling. But the fact stands on even still surer ground. Demonstrable in all as a matter of inference, it has actually been demonstrated in one of the number *as the result of experiment*.

Of the diseases which the three very striking characteristics I have been endeavoring to illustrate separate into one great natural order, *small-pox* may be taken as the type. In very essence a contagious fever, it is a fever in which

a period of incubation, on the one hand, and the protection conferred by an attack of the disease, on the other, have become experimental facts. For, with the introduction of inoculation, *small-pox* became the subject of an experiment (not the less instructive because instituted for a purely practical object) the most gigantic of any that has yet been applied to the phenomena of life. Adopted as a purely sanitary measure, and finally superseded, as such, by Jenner's admirable discovery, it has not the less left to us a legacy of the deepest scientific interest. On all the relations we are here considering it has thrown the clearest light.

Possibly we may never be able to understand all that is involved in what is called the "latent period;" but it is, at the same time, as clear as day that its root lies in the infinitesimal minuteness of the dose, which inoculation *experimentally* shows to be sufficient to the specific effect of the morbid poison. In the same way, the intimate nature of the material conditions which protect, for the remainder of life, the body that has once gone through one of these diseases against any future attack from it, may possibly always transcend our means of research. But the practice of inoculation in the production of *small-pox* has shown, with a clearness and precision which are seldom exceeded, even in physical science, and with a certainty which cannot be surpassed, that these conditions, whatever their ultimate essence may be, are, in fact, the conditions which attach to the reproduction of a specific poison in the most intimate recesses of the human body, by that most specific of processes which constitutes a contagious fever. The disease named *small-pox* only occurs once in life, simply because the *small-pox* poison cannot grow again in a body in which it has once bred. In such a body, as experiment has often shown us, even the reinoculation of the virus remains sterile and without effect.

On the other hand, it lies in the very nature of things that characteristics so cardinal as these—characteristics which are, at once, common to this group of diseases, and peculiar to it—which are perfect in their analogy one with another, but have no perfect analogy with anything we know of in nature besides—must have a common ground. The latent period in intestinal fever must be the same thing as the latent period in *small-pox*; the still more remarkable phenomenon of the protection conferred by one attack against any future attack must be in essence the same in the two diseases. So that if intestinal fever happens only once in life, it is, as in *small-pox*, simply because the fever poison cannot grow again in a body in which it has once bred.

Here, if anywhere in our knowledge of disease, we are on sure ground. To appreciate the whole strength of the case, we must keep this constantly before us, that the leading fact of it, the great fact of all, has, in one instance, not only been experimentally revealed to us,

but revealed by an experiment which for clearness of result is almost without parallel. In inoculated small-pox how striking is the way in which the great fact of *the growth* of the specific poison in the living body is brought to light before us! The virus that is inserted in a speck so impalpable that the mind almost fails to figure its minuteness—so inappreciable that even the inoculated body takes at first, if I may so speak, no covert cognizance of its presence—issues before long in a new stock, which may not only poison the same body unto death, but is sufficient to impart the seeds of death to *myriads* of others. In most other provinces of medical inquiry we have cautiously to grope our way in the dark; but here some of the highest mysteries of disease are laid open to us in the form of visual phenomena that cannot possibly be misinterpreted. Germ and offspring, seed and crop, lie both before us, and the result if not the nature, of the intervening process is as plain to the eye of the physician as that which the cornfield exhibits to the husbandman in the teeming increase of the scanty grain which his own hand had scattered.

What we actually see in small-pox—in the typical member of the group—is but a picture of what occurs in the rest. In intestinal fever, as in small-pox, it is the act of growth (with all that is incident to it) that kills; that constitutes the disease, in fact; and where the conditions for this growth are wanting, the poison is powerless. Whether in intestinal fever the scale of reproduction be as vast as in small-pox, we have not the same ocular means of judging; but that it is the same in kind, and immense in degree, the whole history and evolution of the disorder prove. *The living human body, therefore, is the soil in which this specific poison breeds and multiplies; and that most specific of processes which constitutes the fever itself is the process by which the multiplication is effected.*

This is what contagion in intestinal fever really implies, and it is thus that provision is made for its perpetuation.

To many, these reflections will no doubt appear superfluous. I have thought it well, however, to introduce them here, because even amongst those who admit the contagious nature of this fever, there is often a lurking disposition to ignore or evade the consequences which flow from the fact. Thus, by some, this quality, if mentioned at all, is passed lightly over as an incident of no importance; as a circumstance that may perhaps deserve a passing notice, or justify some precautions, but as in nowise touching the essence of the disease. Others, with an inconsistency that seems still more flagrant, assert that this fever is by nature non-contagious, but that it may become contagious under certain circumstances! If nothing more were meant by this than that its propagation by contagion requires conditions, there could be no objection to such a statement. But it is clear, from the terms used, that this is not what is

meant. It is equally clear that if the views taken in this communication of what this mode of propagation implies to be true, the use of such language betrays an entire want of conception of the real import of the fact. To suppose that this fever is sometimes contagious and at other times not, by reason of some intrinsic difference in the case itself, is just about as rational as to suppose that small-pox could continue to be small-pox and cease to develop and throw off the small-pox virus.

It was under the influence of these considerations that, in a former part of this paper, I referred to the faculty possessed by intestinal fever, of spreading by contagion, as the *MASTER*-fact in its history. It was under the same influence that I ventured to relate, with an amount of detail that may possibly have seemed tedious, some amongst the many facts that have fallen under my own observation which place the reality of this faculty beyond a doubt.

The question of contagion once settled, the next that arises is, in what form and from what surface or surfaces is the specific poison cast off by which the disease is propagated?

Now I have no difficulty in at once giving my opinion that *all* the emanations from the sick are infectious. At the same time, it is one of the principal objects of these papers to show that what is cast off from the intestine is incomparably more virulent than anything else. The full consideration of the grounds on which this last conclusion is founded is reserved for a future communication. It may not, however, be amiss to observe, thus early, that striking evidence of its truth may be found in facts that are familiar to all.

I have said that events such as those related in this paper are common. It should be added that, common as they are, they never occur except under one condition—that is to say, where no sufficient provisions have been made for *preventing the discharges from the human intestines from contaminating the soil and air of the inhabited area*. Where these are wanting, the most spacious rooms, and the freest internal ventilation, afford no certain security against the spread of the fever. I could give the most striking instances of this, if need were. It was almost the entire absence of such provisions at North Tawton and at Chaffcombe, which gave to this scourge, when once it found its way there, such deadly power. When this one condition exists such events are of common occurrence; where it fails, they never occur at all. So true is this, that I doubt not those whose practice has only lain amongst such inhabitants of large towns as live in houses provided with good drains, and especially with good water-closets, will find it difficult to believe that the disorder which the foregoing narrative shows to be possessed of such virulent powers of propagation by contagion, can really be identical with the fever which, in their own sphere of observation, has seldom appeared in more than single cases,

or given other than doubtful evidence of being possessed of such powers at all. On the other hand, neither do I doubt that those who, like myself, have been much conversant with the malady as it appears in country places, will see in this narrative but the reflection of their own experience. In both cases, the nature of the disorder is one, and its power to propagate by contagion the same. But in the one case, the alvine discharges have no sooner passed from the diseased intestine than they are swept far away from the house where the sufferer lies; while in the other, these discharges continue to accumulate day by day upon the soil on which the dwelling stands, and to exhale their poison into the air breathed by the inmates, or to distil it slowly into the water they drink. The extreme contrast in the result, in circumstances that differ only in this one condition, is of itself all but decisive of the question.

The power of the sanitary arrangements just referred to, in almost infallibly preventing the spread of a fever, which, in their absence, often strikes down every member of a family in succession, in spite of the presence of every other favorable sanitary condition, seems to show, with a force of evidence that is irresistible, that while intestinal fever is an essentially contagious fever, the contagious element by which it is mainly propagated is contained in the specific discharges from the diseased intestine.

Like malignant cholera, dysentery, yellow fever, and others that might be named, this is one of the group of diseases *which infect the ground*. Hence the quasi-miasmatic character attaching to them all, which has misled so many observers as to their true mode of spreading. In another communication I shall offer still more specific proofs of the truth of this statement. Meanwhile, it may still further advance the argument, to enquire what is the real significance of that peculiar disease of the intestine which throws off the noxious matter.

'P.S.—The doctrine that intestinal fever is contagious has to contend against one very singular class of objectors, on whom, I suppose, it will be well to bestow a word, before we proceed further. To set aside this doctrine, one of two things is clearly necessary: either to show that the facts on which it rests are not true, or that, being true, they may bear another interpretation. Now, hard as it may be to credit, persons are to be found who, although confessedly unprepared either to deny the evidence or dispute the logic, yet repudiate the doctrine, simply because it does not seem to tally with their own experience. Such persons appear to think it a sufficient answer to the whole case to allege that, in their observation, this fever has seldom spread to the attendants on the sick, and that the cases in which this has happened have been the exception and not the rule. I am not ashamed to confess to some humiliation in having to deal with such an objection as this. One

would have thought it would have been to the last degree obvious that when once a disease has been proved by positive evidence to be contagious, no amount of negative evidence can prove the same disease not to be so. The same thing cannot be by its own nature at once barren and prolific. On the most superficial view, it is clear that the utmost which is implied by the fact on which these non-contagionists rely, is not that the intestinal fever is not communicable, but that its communication requires some special conditions. But this may be said of the whole class of contagious diseases.

As might have been expected, the objection in question proceeds almost exclusively from those whose practice lies amongst the rich inhabitants of large towns, in whose families, for reasons already given, this fever very seldom spreads. But the fact itself is not even good for what it is supposed to be worth. Because the fever does not extend to the immediate attendants on the sick is no proof whatever that it does not extend itself elsewhere.

It is scarcely necessary to observe, that the specific agents by which contagious fevers are propagated are cast off in a material form by the infected body of the fever patient. Some are eliminated from one surface, and some from another. But, in regard to this point, there is a rule which, so far as I know, has no exception. It is, that the most characteristic of the *ejecta* in each disease are, in the same disease, the principal vehicle of the morbid poison. This truth is so familiar that it needs no particular illustration.

Now, it will be shown in my next communication that of all the morbid products thrown off by the (intestinal) fever patient, the discharges from the diseased intestine are, in every sense, the most characteristic. These discharges contain, as we shall see, matters on which the fever poison has set its seal in the most consummate fashion. Wherever they travel—wherever exhalations from them penetrate—there, at least, the most specific of all the exuviae from the sick body are in operation. The sewer, which is their common receptacle, is, as I remarked in a former paper, the direct continuation of the diseased intestine.

To prove that any particular case of this fever has remained without progeny, it is, above all, necessary therefore to prove that the intestinal discharges from it have not, after their entrance into the sewer, been the cause of fever in any second person. To teach, in the absence of such proof, that the disease is not contagious, because the immediate attendants on the sick escape it, is simply to show that those who use such language have not realized the most fundamental conditions of the question they so rashly undertake to decide. It is much the same as to argue that, because the next successors of the tuft of rushes that overhangs yonder river do not spring up immediately around their parent, the spores it has committed to the stream are

sterile, and that it is not in the nature of rushes to multiply at all.

The contrast which is observed between the contagiousness of intestinal fever in the hamlet and the farm, on the one hand, and the city and the prison, on the other, is, I need scarcely add, appearance only. In the country and in the city, the fever is in all things one and the same. It does not change its nature with change of place. It is as really contagious in Belgravia, as it was at Chaffcombe or Penhavod. Wherever it may occur, to multiply and throw off the specific poison from which it springs, is, as we have seen, its very essence, to speak more strictly, is the fever itself. The scale on which the poison is reproduced by this process must be at least as great in the one condition as in the other. In urban populations, the disease is even more fatal to those who become infected with it. And the bulk of new virus cast loose upon society by each individual case is, no doubt, large in the same proportion. The tribute which the sewers receive from the diseased intestine is not less profuse. Also, we have only to refer to the returns of the Registrar-General to see that the *materies morbi* of which the sewers thus become the channels, however the scene of its action may be shifted, does not the less bear its natural fruit.

Cities are not so subject as country places to violent epidemics of this fever; but, taking one year with another, they furnish a larger contingent to the mortality from it. And if the anti-contagionist could but extend his field of view, he might often see in the fever-stricken tenants of some court or alley reeking with sewer exhalations, the first victims of a poison which had found its way there through subterranean passages from the diseased intestine of his wealthy patient, and against the deadly power of which the rich man's household had been preserved by arrangements which his poorer neighbors had not the means to purchase.

It should not be lost sight of that in this discussion the case has hitherto been put on its lowest ground. Even were intestinal fever often really, as well as apparently, without issue, that would prove nothing as against the cases in which it is self-propagated. For if from this we were to infer that the disease is not contagious, by precisely similar evidence we must infer that *small-pox* is not so.

I do not allude here to the cases in which *small-pox* remains sterile, because those who come in contact with it have had the disease before, and are now proof against it, or have earned a similar immunity by the still more extraordinary condition of having been vaccinated. These cases, as showing that the propagation of contagious diseases is not only not absolute, but requires conditions of the most special kind, would be strictly in point. But I speak now of the numerous recorded instances in which *small-pox* has failed, or has ceased, to spread, where neither of these protecting causes were in opera-

tion, where a large prey still seemed to invite its attack, and where every condition was present in its highest degree that might be supposed to give effect to the poison.

The annals of the British Navy abound in examples of this kind. In evidence of this, the following characteristic extract from Dr. Lind's admirable work, "On the Diseases of Seamen," will suffice:—

What is still more wonderful, not only the small-pox, the plague, but other contagions which I have known to rage in ships and in prisons, after exerting their utmost violence, will sometimes abate in their malignity, and at length stop. Have they exhausted themselves, or their subject? That they do not always exhaust their subject is plain from facts and our experience of the thing. Thus, for example, although the infection of the small-pox was pent up in the *Royal George* amongst 880 men, yet this contagion disappeared altogether at sea, and some months before she put into any harbor, after having destroyed four or five persons, and left near a hundred unattacked."—vol. ii., p. 112.

Sir G. Blane, in relating a still more remarkable instance of the same kind, adds, that he had seen many like it.

The argument used in regard to intestinal fever, if it were worth anything at all, would, therefore, prove small-pox to be non-contagious; a conclusion the absurdity of which is rendered palpable by the tangible form in which the small-pox poison is eliminated. Nay, if pushed to its limits, it would prove that because every seed which the thistle commits to the wind does not spring up into a new thistle, thistles do not propagate by seed at all.

#### ON PERITONITIS IN RELATION TO UTERINE PATHOLOGY.

By E. J. TILT, M.D., M.R.C.P.,

SENIOR PHYSICIAN TO THE FARMINGTON GENERAL DISPENSARY AND Lying IN CHARITY.

At different periods of history, man has been assailed by new epidemics and by constitutional complaints previously unknown; but local inflammatory affections seem to obey fixed laws, and have probably little varied since man was first doomed to sickness. The fixity of those laws which govern the phenomena of local diseases stands, however, in striking contrast with the very different interpretations of them which have been given by the pathologists of successive epochs. In other words, the laws of nature are immutable, but the human mind takes a more or less comprehensive view of them, and thus holds up to our gaze a more or less distorted picture of the reality of things.

These reflections have been suggested to me by the various ways in which the most frequent diseases of women have been interpreted during the last fifty years. Most of us are old enough

to remember the time when many diseases of women, now easily defined, were then vaguely spoken of as cases of "inflammation of the bowels" or of "internal inflammation." An attempt to improve the state of uterine pathology by a study of vaginal discharges was a move in the right direction, but it was only after the adoption of the speculum as a means of investigating uterine disease that a great and continually increasing accession has been made to our knowledge of diseases of women in general. It not only brought the sense of sight to bear on certain uterine affections, but suggested a more careful use of every other mode of exploration. It was then made evident that some of the cases, called "inflammation of the bowels," were inflammatory affections of the womb, or depended on ulceration of the neck of the womb. Indeed, the first effects of increased attention to uterine pathology was to cause many morbid lesions of the peri-uterine tissues to be mistaken for diseases of the womb itself. At a time when other departments of pathology chiefly engaged attention in England, and when midwifery was still tabooed at the College of Physicians, this great scientific movement was progressing in France; but as French pathologists were still under the influence of Broussais' exaggerated estimate of inflammation, engorgement, or a more or less active inflammatory swelling of the womb was considered its chief morbid condition, and this complaint was often erroneously diagnosed when the swelling owed its origin to peri-uterine phlegmon, to peritonitis, or to flexions and misplacements of the womb.

After a few years, it became admitted, that in many of the cases commonly called "inflammation of the bowels" and "internal inflammation" there was no inflammatory element, but a neuralgic condition depending on distortions and misplacements of the womb; and this became evident to all when it became comparatively easy to appreciate correctly these lesions by means of the uterine sound as by a prolongation of the finger.

By degrees, also, the swellings and abscesses of the broad ligaments became better known; while a more perfect physiology of menstruation threw light on certain inflammatory affections of the ovaries, the frequent occurrence of which had been almost unperceived, disguised, as they are, by the pains of dysmenorrhœa and by the more marked symptoms of uterine disease with which they are frequently associated. More recently, it has been shown that women are also liable to hæmatocele, or peri-uterine collections of blood, sometimes intra-peritoneal, sometimes extra-peritoneal, or situated in the cellular tissue of the broad ligaments.

In addition to all these various forms of disease, once obscurely designated by the term "internal inflammation" or "inflammation of the bowels," there is another, or rather two complaints, called "peri-uterine phlegmon" by some, and by others "pelvic-peritonitis." The in-

flammatory diseases of the broad ligaments have been well illustrated in the valuable contri-  
butions of Simpson, Battersby, Lever, Gris-  
sard, and others, when, in 1850, a Paris hospital phy-  
sician of some note, Dr. Nonat, published his  
lectures on Peri-uterine Phlegmon, to which he  
ascribed most of the symptoms usually attrib-  
uted to inflammatory affections of the broad  
ligaments; but he also laid particular stress on the  
fact of the lower portion of the neck of the  
womb being to a certain extent surrounded by  
well-defined semi-elastic swelling, evidently  
connected with the womb; and Nonat affirmed  
that this was the result of the phlegmonous in-  
flammation of the cellular tissue surrounding the  
neck of the womb. These views and the name  
of the disease, were adopted by Valleix, Gou-  
lin, and others, in France, and amongst us by  
Dr. West and A. Farre, in their lately pub-  
lished valuable works. Nevertheless the very ex-  
istence of this peri-uterine phlegmon has been  
contested by my friends Dr. Bernutz and Dr.  
Goupil, in some valuable papers which ap-  
peared in the *Archives Générales de Médecine* in  
1857. They maintain that M. Nonat united in  
one description two distinct diseases,—the well-  
known phlegmonous swellings of the broad lig-  
aments, and a complaint little understood—pel-  
vi-peritonitis.

While attached, as physician, to the Hôpital de  
l'Ourcine, Dr. Barnutz—for whose accuracy of  
observation I willingly stand warrant—met with  
many cases answering to M. Nonat's description.  
In one well-marked case there was the distinct-  
ly-felt elastic swelling circling two-thirds of the  
circumference of the neck of the womb. It  
happened that this patient was carried off by  
typhoid fever, and on making the post-mortem  
examination Dr. Bernutz was very much sur-  
prised to find that the peri-uterine cellular tis-  
sue was not in the least diseased, and that the  
tumefaction surrounding the neck of the womb  
was the result of the recto-vaginal space being  
distended by pus and false membranes, the pro-  
duct of circumscribed peritonitis, brought on  
by an attack of acute ovaritis, which had itself  
originated in a blennorrhagic affection. In two  
other instances, the patients being carried  
off by small-pox and phthisis, it was ascertained  
that the tumefaction was caused by pus and  
false membranes accumulated in the recto-vag-  
inal space, and that the peri-uterine cellular tis-  
sue was perfectly free from disease.

The great difference between general and local  
peritonitis may be here adverted to: the first  
having always a lethal tendency, and being fre-  
quently fatal; the second being often a salutary  
effort of that internal providence which shapes  
a morbid process into a means to prevent worse  
mischief. This is so true, that we sometimes  
seek to determine local peritonitis, and to bring  
about the adhesion of the opposed peritoneal  
surfaces, so that we may be able to empty a pel-  
vic or an hepatic abscess,—an hepatic or an  
ovarian cyst.

Partial peritonitis, whether situated in the abdomen or pelvis, frequently occurs without being the result of any salutary effort of nature; but it is so seldom fatal, that little opportunity is afforded of testing the accuracy of the diagnosis: it cannot, however, be of uncommon occurrence, if Dr. Bernutz has met with ninety-seven instances of it during three years' hospital practice at L'Ourcine and at La Pitié. Should further observation confirm this frequency, it would not surprise me, and would at last offer a satisfactory explanation for those false membranes and bands so frequently met with on and in the vicinity of the ovaries and oviducts—lesions which must be considered as the incontestible witnesses of peritonitis at some previous period of the patient's life. The great frequency of these inflammatory lesions on the peritoneum of the female pelvis has been well shown by Carswell, Lever, and by Drs. Oldham, West, Farre, Renaud (of Manchester), and by Mr. Canton, Mercier, Gendrin, Grissolle, and Rokitsky are a few among a host witnessing to the same fact.

In various communications to medical societies, and in my works on Diseases of Women, I have expressed my conviction that these evident sequela of peritonitis often originated in morbid menstruation, and that many cases of dysmenorrhœa were neither more nor less than cases of limited pelvi-peritonitis. The frequency of the cases published by Dr. Bernutz is, however, contested by excellent observers, such as my friend Dr. Aran, in Paris, and by Dr. West, who remarks "that Dr. Bernutz has fallen into the error of stating as the rule what is, indeed, the somewhat rare exception;" but this does not accord with the fact of Dr. Bernutz having met with ninety-seven cases in the space of three years. This observer admits that the broad ligaments are often the seat of cellulitis or phlegmonous inflammation, but he affirms that the scant amount of lax cellular tissue lying between the posterior aspect of the lower portion of the neck of the womb and its peritoneal covering is scarcely liable to phlegmonous inflammation. I do not see why any particular portion of cellular tissue should escape from its well-known liability to inflammation; indeed, the fact has been lately placed beyond doubt, in two instances, by the post-mortem appearances having been submitted to two of the medical societies of Paris. While thus admitting the possibility of inflammation being limited to the cellular tissue situated behind the neck of the womb, I believe that this is seldom the case, and that inflammation originating there gradually extends so as to constitute those tumors of the broad ligaments with which we are all well acquainted.

I regret to find that my experience does not accord, on this point, with that of Dr. A. Farre, who, at page 688 of the Supplement of the "Cyclopædia of Anatomy and Physiology," considers "peri-uterine phlegmon as comparatively

frequent," and says that "it is often confounded, not only with retroflexion, but also with retroversion, fibrous tumor, and hypertrophy of the walls of the uterus; and that "hence the frequency of its occurrence has not been commonly recognised." Pelvi-peritonitis is described by Scanzoni as peri-metritis, although, singularly enough, he refers the reader to works on cellulitis and inflammation of the broad ligaments. It is spoken of as metro-peritonitis by Dr. A. Farre, who wishes to restrict the name of perimetritis to what the French have described as peri-uterine phlegmon. Pelvi-peritonitis has doubtless been confounded by some pathologists with engorgement of the uterus, and by others with partial chronic metritis; for, as all these complaints are very seldom fatal, the opportunity of verifying the diagnosis seldom occurs, and the consequence is that, although pelvi-peritonitis is a very frequent disease, very little is known about it. If we consult our valuable works on diseases of women, we shall find the frequency of peritonitis inferred from the frequency of inflammatory sequelæ in the female pelvis, but we shall find little else recorded beyond the fact of sterility being often caused by peritonitis, and its occurrence as a complication of ovarian tumors and cancer of the womb.

In my work "On Diseases of Women," I had already brought together many important facts connected with the history of pelvi-peritonitis, and insisted on its frequent occurrence during morbid menstruation; but to Dr. Bernutz is due the credit of having clearly traced the very obscure origin of those pelvic adhesions, false membranes, and bridles of lymph, with the appearance of which we are all familiar, in the vicinity of the womb and ovaries.

Having thus explained the obscurities of the subject, and the pathological relations of pelvi-peritonitis, I shall now briefly sketch the complaint from my own experience and the statistical data of Dr. Bernutz's practice, given in a thesis of Dr. Lacourtiade, one of his pupils.

(To be continued.)

## ON THE TRUE NATURE OF PARASITIC DISEASES.

By JOHN LOWE, M. D.

I beg to offer the following condensed remarks on two papers having reference to the above subject which have appeared in the pages of THE LANCET during the present year—one "On Parasitic Fungi," by Mr. Hogg,\* the other a very interesting communication from Dr. Fox, "On the True Nature and Meaning of Parasitic Diseases of the Surface."†

Hitherto we have had two theories regarding vegetable growths on animal bodies—1st, that they are the real agents in the production of

\* April No., page 328.

† September No., page 203.

skin diseases; 2ndly, that they are merely of accidental occurrence. To the latter of these Mr. Hogg declares himself an adherent. We have now a third view, promulgated by Dr. Fox—viz. that "there is no true parasitic disease except that of the hairs." Which of these statements is the correct one, and what are the arguments by which they are sustained?

First, then, of the new theory—"there is no true parasitic disease except in the hairs." Now, whilst almost everyone is ready to admit that the hairs are more easily affected than other parts, few, I think, will be prepared to adopt the idea that they are the only structures involved. If it had been written, "there is no true parasitic disease in which the hairs are not affected," the point might have been ceded as of little importance, and we might admit further, as above stated, that these are more readily infected than other structures by reason of the freer contact with the atmosphere which the fungus obtains in the hair follicle; but why we should hold that because of the "alteration and destruction of the hairs whenever a parasite was present, and their integrity whenever the latter was absent," therefore "the only disease it engenders is that of the hairs," I fail to perceive. Dr. Fox will scarcely deny that the fungus spreads from the hair follicle into the surrounding epidermis; and if so, does it not produce disease there? The centrifugal development of the eruption is, I think, a strong argument that there is other disease than that of the hairs. And further, I have frequently found that the fungus was present with the eruption, both in tinea and favus, when all the hairs were destroyed. In two cases of lichen annulatus which I treated in 1857, I found the fungus distinctly under the epithelium; but although I extracted and examined every hair on the patch of eruption, no trace of the parasite was found on them. I hold, therefore, that we must not hastily conclude that the disease is non-parasitic because we fail to find the fungus in the hair follicle; neither ought we to argue to the same point if we find it not under the epidermis, for I have frequently found it in pityriasis after failing five or six times. The minuteness of the objects sought for, and the care required in the investigation, sufficiently account for the different opinions held on the subject. Dr. Fox observes that "chronic skin diseases occur in situations where the hairs are few in number." Might we not incline to the idea that the disease is chronic *because* the hairs are few? that because the plant has little contact with the atmosphere, it therefore spreads slowly and originates a chronic disease? With reference to the concluding sentence of the above clause, we are entirely at issue: "The effect of the parasitic growth is of no moment when compared with the concomitant eruption;" and yet afterwards we find, what is certainly true, that "the amount of parasite and eruption are in direct ratio." Why is this? Is it merely a coinci-

dence, or is it not rather an instance of cause and effect?

It is difficult to conceive that the growth of fungus amongst living tissues can be of so little moment as Dr. Fox appears to imagine. But of so minute a form, and its agency invisible, we are apt to underrate its intrinsic power. What is the amount of force evolved during its growth, and what are the special results of its operations? Look for a moment at the effect that fungi produce in other situations. Agaric growing under a stone of more than a hundred pounds weight raises it from its bed to the height of several inches. The cells of the agaric are not widely different from those under consideration. Again, the mycelium of a fungus, probably identical with that found in skin diseases, has been known to raise a cask to the top of a cellar, the fungus feeding on the wine as it leaked from the cask. (Harvey.) Surely the cell-force which is capable of effecting such operations as these must be of some moment when exercised although to a much less extent in a delicate living tissue. Is it not capable of exciting inflammation and of actually producing the eruption, which Dr. Fox regards as "secondary" to the development of the parasite? For secondary, we ought, I think, to write coexistent; else why the annular, centrifugal form of the eruption? Beyond the irritation produced by mere mechanical pressure, there is, however, another source by which inflammation is engendered—viz., the production of irritant acids and gasses by the chemical action of the vegetable cell. We may assume as an undoubted fact, that a vegetable cell cannot undergo development without exciting a chemical decomposition in the pabulum on which it feeds. The results of this chemical action on animal bodies have not as yet been fully investigated, but I have already pointed out their probable nature in a previous communication to THE LANCET. The different stages in the growth of the plant give rise to alcoholic, acid, and putrefactive fermentation. Of the latter, we have ample evidence in many skin diseases, but especially in favus, the odor of which closely resembles that of some methylamine compound. But whatever the products are, it can admit of little doubt that their nature is irritant.

Dr. Fox cites a case of *porrigio decalvans* in which no eruption was present. This is not by any means uncommon, but it hardly tallies with the remark, that "the amount of parasite and eruption are in direct ratio, because a fungus is certainly present in the disease named. It appears to me that we cannot generalize as to the ratio of eruption and parasite; for an amount of fungus which will simply produce death of the hairs in one person, or part of the body, will, in another, produce irritation, eruption, or even violent inflammation. The difference in effect seems to be due to two causes: first, to constitutional peculiarity, when the result is different in different individuals; second, to peculiarity



of structure, as regards density, heat, moisture, and chemical composition, when the difference is observable in parts of the same individual. There is moreover, a variation in the amount of irritability in different parts of the body, which of itself will account for some of the peculiarities in the development of skin diseases. To diminished irritability, as well, perhaps, as to an increased density of tissues, is to be ascribed the rarity of skin affections in elderly people. The opposite conditions account for their frequency in the young. One or other of these peculiarities will account also for the differences in the form of the parasites—variations which are so slight that one fails to obtain an insight into the reasons of their being raised to the rank of species. Certainly they were not so raised on correct scientific principles, inasmuch as they are merely initial or undeveloped forms, belonging, as I have endeavored to prove by experiment, to one of two species.

I am looking forward with interest to the publication of Dr. Fox's next paper, proving them to be referable to one species for although I showed that they were all referable to *aspergillus glaucus*, I think we are not warranted in excluding *penicillium* as a source of the parasite, and that for two reasons: first, because the initial forms of these are isomorphous; and, secondly, because, as Mr. Berkley remarks, "they are equally indifferent about their matrix, so long as the conditions for their growth are fulfilled."

Mr. Hogg's paper which was published in full in the April number of the *Microscopical Journal*, goes to confirm the statement which I had previously made, in 1857, as to the identity of the vegetable parasites. Mr. Hogg made microscopic examinations of the various diseases, and the result is the same as that at which I arrived by the examination of M. Robin's faithfully and beautifully executed work, as well as by experiment and microscopic investigation,—that all the growths in question are specifically identical. Mr. Hogg claims to have discovered a fungus in six diseases in which it had not before been noticed by any author,—namely, "in psoriasis, lepra, eczema, spilus, ichthyosis, and lichen." In the five former, which are not parasitic diseases, its occurrence is merely accidental, as it may be in any other. In lichen I had previously recorded its occurrence.

Mr. Hogg is decidedly of opinion that the vegetation is not the cause, but a result, of disease—on the following grounds:

1st. The general law, that vegetable parasites only attack bodies in a state of lowered vitality or commencing decomposition. This is rather an argument for than against the production of disease: attacking bodies whose vitality is lowered, both in the animal and vegetable kingdoms, the fungus hastens the progress of death and disintegration of the part.

2nd. "The growth of fungi is not necessarily pathognomonic of a special disease, because

they have been observed in all kinds of chronic skin diseases." In one class of disease the parasite is invariably present: in another, only occasionally; and in these it has never been alleged as a cause of the disease. In the former class it has always been found (at least there is only negation in occasional failures in the attempt to discover it, which, as Mr. Hogg himself proves, is often due to the incompetency of the observer), and there its presence is pathognomonic of the disease.

3rd. "Competent observers have not been able to find them in the diseases which they are believed to engender. . . . Thus Malherbe, Cazenave, and Wilson deny the existence of a vegetable fungus in *porrigo scutulata*." Mr. Hogg gives nine cases of the disease, in all of which he found the fungus: the inference is, that the above were *not* competent observers. And again, "Cazenave, Didot, and Wilson deny the existence of *achorion Schönleinii* in *favus*." Now, as the first of these admits his "ignorance of the microscope," and the latter does not deny the existence of a "growth," but merely accounts for it in a peculiar manner, the number of competent observers is narrowed into a small circle.

Lastly. As to the results of attempted inoculation, the experiments are too few and too irregular to afford any basis for argument *pro* or *con*. Cases of well-authenticated communication by contact are numerous, and worth far more than merely negative experiments.

I do not think we are justified in dismissing the subject of causation of disease by fungi so summarily, and on so slight grounds, as Mr. Hogg appears to do. In common fairness we should adduce the arguments on the other side, which has not been done in Mr. Hogg's paper. Let me briefly state some which seem to have most weight; conclusive they can scarcely be considered, in the present condition of our knowledge, but they bear strong presumptive evidence of truth:—

1. Mr. Hogg's own argument against the theory of their morbid agency, "they grow most readily on bodies whose vitality is lowered, and which are prone to decompose."

2 They cannot grow without inducing decomposition, the products of which in contact with living tissues have a tendency to excite irritation.

3. That the mycelium growing amongst living structures excites inflammation.

4. That the mycelium spreads centrifugally, and that the ring of inflammation spreads to the same extent; and these, therefore, bear, to say the least, a semblance of cause and effect.

5. That the fungi formed in all skin diseases are to be ascribed to one or two common species, the slight variations in their structure being due to the different conditions under which they grow, especially with regard to light, heat, moisture, chemical requirements, and density of structure.

6. That *parasiticides* are, in many instances, sufficient to remove the disease without any constitutional treatment.

7. That competent observers have been able, in almost all cases, to discover the parasite which was supposed to engender the disease. (Vide Robin, &c.)

8. That its occurrence in other diseases is merely accidental, and that in these it does not produce its specific action owing to the absence of one or more requirements for its development.

Lastly. Numerous authentic cases of direct contagion from one subject or part to another.

Mr. Hogg states that parasitic diseases are rarely, if ever, cured by destroying the parasite. From this I differ *in toto*, having treated numbers of cases of psoriasis, pityriasis, lichen, and tinea several of favus and sycosis, without any constitutional means whatever, and have not yet failed in obtaining a speedy cure. In psoriasis it is generally sufficient to paint the patches once daily with strong tincture of iodine (a drachm to an ounce), and so with the others. One most aggravated case of psoriasis vulgaris, covering the whole of the scalp, both arms and both legs, was completely cured in a month by this method.

Of course, where the general health is deranged to any great extent, constitutional measures will aid the cure; but I am quite sure that, in very many cases, they are by no means indispensable. I have tried all the so-called parasiticides, but find none equal to the one mentioned.

I cannot conclude without observing how Mr. Hogg, in his Postscript (published January 1859), quietly appropriates the *results* of my experiments on favus crusts, which were read and published in 1857. (Vide vol. v., "Transactions" of the Botanical Society, Edinburgh.)

(King's Lynn, August, 1860.)

#### NOTES ON THE MANAGEMENT OF ABSCESS OF THE LIVER.

By JOHN JACKSON, M.D.

When an abscess in the liver is once formed, and there are distinct evidences of suppuration, the time for bleeding, mercurials, and other antiphlogistic remedies has passed. Nothing is more hazardous to the patient now than an interference with the plan which nature is setting up for the ultimate destination of the abscess. Danger would be incurred by any direct attempt to obstruct or direct what seems to be the settled design of nature, which sometimes resents the idle interference of art when it comes too late.

In Europeans resident in Bengal, it is not often that abscess makes its way towards the anterior walls of the abdomen, or that adhesions take place which lead to pointing and the bursting of the abscess, like that in common phleg-

mon on the surface of the body. The abscess generally of a considerable size; it occupies the central part of the organ; is deep-seated and shows but little tendency towards the situation of the abdominal parietes, which no doubt is the best course for it to take, if it is to be treated by artificial means.

But in the natives of India there is a much greater proportion of superficial abscesses the point towards the abdominal muscles; and in them the febrile action is much less severe; the abscesses are more limited in extent, and can therefore be more beneficially treated by artificial means than is the case with the Europeans. In nine cases of the disease in natives under my care in the year 1853, in which the operation was by puncture through the abdominal muscles, eight were successful. In Europeans, a successful issue of abscess of the liver consequent on operation is extremely rare, and my experience with respect to them disposed me to object, most generally, to the operation in their case.

There are many ways which nature adopts for the discharge of an hepatic abscess; and the provisions which are so admirably made for the security of the patient form one of the most striking instances of protective power in the human economy. It is not often that an abscess breaks down suddenly and empties itself into the cavity of the abdomen, or into the thorax without the various preparatory stages of adhesion, effusion of coagulable lymph, or other circumstances or conditions most favorable to the safety of the discharge; and when eventually the abscess does give way, it most generally occurs after there has been an abundant secretion of pus formed, which, by continued pressure and progressive absorption of the outer walls of the abscess, reduces them so much that there is not strength in them to withstand the increasing amount of pus secreted and the distension caused, and the abscess bursts.

When an abscess forms in the convex portion of the liver, and adhesion is taking place between that organ and the diaphragm, as well as between the upper serous surface of the diaphragm and the pleura of the lung, any further administration of mercurials, or antiphlogistic treatment, while no check can be put to the disease, would at once interfere with the protective power which nature is setting up. The administration of mercurials prevents the formation of fibrine and removes it from the blood, as well as absorbs what has already been secreted; and, whilst ineffectual in preventing the further formation of pus and limiting the abscess, it lowers the system, and subsequently prevents a more favorable termination of the disease. So that no plan is more prejudicial to the welfare of the patient than a continuance of a mercurial course after an abscess is once formed.

At the commencement of the treatment the practitioner is anxious to witness the specific in-

fluence of the mercurial, and, after full venesection in the stout, healthy European, he pushes it on, in full hopes of obtaining the desired salivation. But it is necessary for him to bear in mind, as the disease goes on, that if a full and fair trial of the mineral has been given, and no specific effect produced, the further continuance of it is noxious, and interferes with the very means which nature may be setting up for a cure. Salivation (as the specific effect of the mercurial) so very rarely happens after an abscess has formed (and never, that I have seen, in the acute stage), and the evidence of its action is so generally a proof that no suppuration has taken place, that it is scarcely a matter of surprise that the use of the mineral should be carried so as to produce its effects if possible, and thus settle all doubts in the mind of the medical attendant as to the actual condition of the patient.

It might be supposed that when an organ of such size and importance as the liver has become so affected as to cause abscess, there would at once occur some one sign as pathognomonic of the event. The catalogue of symptoms, when all are present, must leave no room for doubt. But it frequently happens that some one or other of the disturbing causes will interfere with the diagnosis, and thus render evidence doubtful and imperfect. I have known of instances where the symptoms were so obscure, that the existence of liver abscess was not suspected till autopsy proved it; and I have frequently heard the remark of an able and experienced surgeon, that he believed that no one who had been many years in India, and had been subjected to any disease of the liver or to dysentery, could feel perfectly sure that he had not an abscess in his liver. Where there is furred tongue; turbid or rusty deposit in the urine, with very scanty secretion; an absence of bile in the alvine evacuations; fever, followed by rigor; sensation of heat in the right side and epigastrium, like a ball of fire; great sense of distension; disturbed sleep, with startling dreams (a very suspicious symptom); a pulse above 100; skin hot, or at times bathed in perspiration; actual enlargement with fulness of the organ manifest,—there is no difficulty whatever in making out the case. But the tongue, instead of being furred and dry, may be clean and relaxed; the urine may be clear; there may be no perspiration; little or no febrile action; the pulse may be under 80 (indeed 84 is the common pulse for hepatic abscess when forming), and it not unfrequently happens that the congested state of the liver will induce a slower pulse than natural, such as may be called a pulse of smothered strength. The patient may be free from all pain or sense of fulness in the epigastrium, and refer all the discomfort he experiences to indigestion. Again, in those cases where there has been previous dysentery, and the abscess has been passive, salivation even has occurred after the use of mercury. This

latter circumstance, however, is so exceptional that it only proves the rule, and anyone who has treated any number of cases of hepatic abscess will be aware of the extreme difficulty, I had almost said impossibility, of causing mercurial ptyalism in one affected with hepatic abscess. Ptyalism is, in truth, the *experimentum crucis*.

When matter has formed, and the abscess takes place in the convex surface of the liver, immediately below the diaphragm, there is an effusion of coagulable lymph, and adhesion to this muscle; the inflammatory process is limited to a small spot, and does not put on that diffusive action so generally observed in inflammation of the serous membranes; it is limited to a small portion of the membrane only, corresponding with the projecting part of the abscess; a progressive absorption of the diaphragm takes place; the serous membrane of the pleura becomes involved, and, pouring forth coagulable lymph, it attaches itself to the inferior surface of the right lung; firm adhesion ensues, and the abscess then goes on increasing by progressive absorption, and a way is made for it through the diaphragm; consolidation of the lung takes place, according to the size of the abscesses; and, in the end, there is the bursting of the abscess into one of the bronchi. If, in addition to all this, the amount of matter poured forth at once be large, there is great fear that the patient may be suffocated, and die upon the spot. The first moment of such an occurrence is an all-important crisis, and it is of vital importance that medical assistance should be at hand, that the position may be indicated which is most favorable for the escape of the matter. If this contingency does not prove at once fatal, and there are no other large abscesses yet unopened, we may fully anticipate that a complete recovery will follow.

Long experience has convinced me that there is no course which hepatic abscess, when once formed, can take, that holds out such good prospects of recovery by natural means, as when the channel for the discharge is through the right lung; and although abscesses may be opened externally by the aid of the knife, either through the abdominal parietes or through the ribs, or may open themselves by ulceration into the stomach or bowel, there is not the least doubt that the passage through the lungs is the most favorable course for the abscess to take.\*

It is very necessary that every medical man should be aware of this fact, so that he may not be tempted to interfere with the natural process, by depletion or blisters, or other means, to remove the irritating cough which sometimes shows itself when the abscess is making its way through the diaphragm, and calling into action the pleuratic surface of the lung previous to ad-

\* This is my own experience, and I state it thus strongly from being aware that it differs from that of others of high authority, who hold that the passage through the bowels is the safer channel.

hension. Mild measures and soothing remedies are the only plan of treatment which should be adopted, and nature is to be aided by the best means in our power to effect the objects which she has in view. The patients that have come under my eye who have recovered from abscess of the liver making its way through the right lung, are very numerous. Several of them are now in England; others are still in India, where they are carrying on their duties without any appearance of ill health. In the recovery, however, of such patients, and during the early period of the discharge of the abscess, whilst the chasm in the liver is unclosed, and no granulations formed, and the passage of the lung free, much discomfort may arise from air passing down into the hepatic cavity, and great distress be induced, until, by change of position, bandages and other supports, relief be afforded, and the air gradually be expelled. When the abscess is very large, and the opening through the lung extensive, this will occur; but the cases are not common, and the plan adopted by nature is the best calculated to prevent the admission of air into the open cavity, or giving rise to long-continued and purulent, offensive discharge.

In artificial openings, whether between the ribs or through the parietes of the abdomen, the mode of opening the abscess is of much importance. If the opening is made large, and a tent inserted, under the notion that there will be a better escape for the matter, air will be admitted, which will render the discharge offensive; there will be a discharge of bile, for the biliary ducts are soon broken down, and the patient will be unable to recover his strength under any plan of treatment, but will sink under the continued exhausting discharge. But when the opening is small, and the matter allowed to exude without any amount of pressure, the opening closed by adhesive plaster, strong tincture of iodine painted over the tumor, the body carefully bandaged with compresses, and the patient supported with good diet, porter, and wine, the kidneys being gently acted upon with hydriodate of potass with cinchona, there will be great reason to look for a happy result.

When an artificial opening is to be made, I prefer for this purpose the knife to the potassa fusa\* or the trocar. The seton, however, introduced between the ribs, I have known to be successful.

A question not unfrequently will arise as to the propriety of opening an hepatic abscess when the fact of its existence is very evident, and the collection of matter large, with the certainty of a copious discharge taking place. The operation is attended with no difficulty, and it

might seem to be the best plan; but it often happens that there are strong objections, and unfavorable results would most certainly occur. If the abscess is very large, and lie close to the surface—if the peritoneal covering of the liver be much distended, and the wall of the abscess no thicker than the eighth of an inch, it will be easy enough to cause an escape of the matter; yet the wall of the abscess is so thin that it once falls in and becomes flaccid; there will be an insufficient supply of nutrient blood sent to the outer wall of the abscess, and the wall will slough, leaving a large, irregular cavity, such as is not unfrequently seen when a large abscess forms extensive adhesions to the costal surface, and after penetrating between the intercostal muscles, stretches and distends them until the outer walls give way and the integuments slough. Unless the abscess should seem limited in extent, and show signs of pointing, as in common phlegmonous inflammation, it is well to be wary before recommending an artificial opening to be made; and if the abscess be of a passive kind, and seem enclosed, as it were, in a capsule, the parietes being thin, an opening in such a case would prove disastrous.

There are cases of a distressing nature, such as when abscesses make their way between the intercostal spaces, where it might seem advisable to make use of the scalpel. All that can be said of such cases is, that the operation affords but a faint hope of recovery; that it is better to leave the abscess to open of itself. The artificial opening must necessarily pass into the cavity of the thorax, and then through the diaphragm into the liver. If a trocar is used, and the tube retained, there is continual elevation and depression of the tube; there is difficulty in its management, which is not the case when the abscess points direct to the abdomen. Within my knowledge, in all cases in which an opening has been made through the intercostal spaces, the results have been most unsatisfactory; indeed, I have never seen a single recovery under such operations. I have once known a class of hepatic abscess which opened into the pericardium, and in this instance, when the external incision was made for relief, there was an immediate discharge of matter, much greater than had been originally expected. A male catheter was introduced into the pericardium, and was moved to and fro from side to side by the action of the heart, which struck against it, without being rendered irritable; in fact, it produced no acceleration of the pulse, nor was pain complained of.

When hepatic abscess is attached to the colon, which is not an uncommon occurrence, provided no large bloodvessel gives way through ulceration, which is by no means unfrequent, and which I have generally found to be the cause of death, there will be a discharge of pus into the bowel, and, if the abscess is small, the patient may recover. The first sign of the abscess having given way will be a feeling of faintness, and sometimes collapse; and the pus may gradually

\* Although the potassa fusa is most serviceable in causing absorption of deep-seated matter, and in two cases of abscess of the liver under my own care seemed to operate in this way most favorably, in causing absorption, yet for producing a direct opening from the slough which it causes, or with a view of producing adhesion of the liver to the parietes of the abdomen, when there is a doubt, I do not think it advisable. I have never seen any bad result from opening an abscess when there was the least pointing, nor feared the contents of an abscess, when opened, passing into the abdomen.

as along the bowels, and, from its unirritating nature, make its way unperceived through the sineter, without the patient having any notice of what has occurred until he finds his bed filled by a collection of purulent matter. But there be a discharge of blood, this will coagulate as soon as it has passed into the colon, where it will obtain a covering from the mucous and intestinal secretions, and will be voided sometimes in large quantities, and frequently be observed in the close-stool, as if it were portions of flesh-like, solid liver.

The above is intended as a sketch of the after-management of cases of abscess of the liver when it has fully formed. It is not intended to enter upon the symptoms of the disease or the treatment, or to specify the several distinctive forms in which it may arise. Suppurative inflammation takes place as the result of congestion, or phlegmonous inflammation in the centre of the organ, or in the several lobes; and this disease is quite distinct from adhesive inflammation, which first affects the peritoneal coat. It differs greatly in its symptoms from those hepatic abscesses which are consequent upon ulceration of the bowels, dysentery, or operations in the rectum. These points have been very ably brought under the notice of the profession by Dr. George Budd, and the truth of his statements must be confirmed by all who have had opportunities of witnessing disease of the liver and bowels in tropical climates, or where operations on the rectum, when the patient has been out of health, have induced abscess in the liver in the course of a few weeks—generally the beginning of the third week. Suppuration of the liver unattended with ulceration of the bowels, to which the above notes refer, is a distinct disease.

George street, Hanover-square, Aug., 1859.

#### ON A LARGE CYST IN THE ORBIT CURED BY THE CAUTERANT ACTION OF IODINE ON ITS INTERIOR.

By J. C. WORDSWORTH, Esq., M.R.C.S.,

ASSISTANT-SURGEON TO THE LONDON HOSPITAL AND TO THE ROYAL LONDON OPHTHALMIC HOSPITAL.

In February of the current year, I was requested by my friend, Dr. Jackson, of Tottenham, to see a young lady suffering from a large cyst in her right orbit. It had existed for several years, and, gradually increasing, was producing considerable inconvenience, by displacing the eyeball forwards and outwards, so much so that she was unable to use both eyes together, as the attempt caused double vision. She had also suffered from slight stillicidium, from pressure of the tumor on the lachrymal sac. The tumor projected from the roof of the orbit (its most common position in this region) and formed a soft, fluctuating mass, perceptible through the upper lid, of about an inch in diameter, and appeared intimately blended with the eyeball, and with the periosteum of the cavity. By pressing it,

some motion was communicated to the globe; and its history indicated a deep origin. From these considerations, I was induced to state that I doubted whether the tumor admitted of complete extermination, and that I was therefore not prepared to promise a cure, as I had never known an instance where any portion of one of these cysts having been left, it failed to develop a tumor again.

On the 23rd of February, the case was submitted to operation. Chloroform having been administered by Dr. Jackson, I made a long, curved incision through the lid, corresponding with the concave margin of the orbit, and, by a little dissection, separated the cyst from its organic connections. It was then evident that it extended deeply into the orbital cavity, and that it was firmly adherent to the globe and fibrous investment of the bone, as anticipated. The cyst was then freely opened, as all idea of attempting its removal was abandoned. A considerable amount of glairy fluid escaped; and on passing a probe, the cyst was traced to the apex of the orbit. A careful examination by the finger indicated its close relations with the eyeball and the roof of the cavity, as it had deeply indented the bone above the lachrymal sac. Having carefully sponged out the cavity of the cyst, so as to permit of the application of a cauterant, I introduced a probe armed with lint saturated with a strong alcoholic solution of iodine, and, by a free use of the remedy, satisfied myself that no part of the membrane could escape its influence. The wound was then dressed with wet lint, and as soon as she recovered from the effects of the chloroform, she complained of only slight pain. Some discharge occurred for a few days, and was soon followed by complete closure of the wound; no inconvenience having resulted from the operation, beyond that of the immediate pain and the subsequent nausea from the chloroform.

On the 27th of July, she called to see me, and I am gratified to be able to state, that I was unable to find a vestige of the tumor. The eye has receded to its normal position, and is again fully restored to its function.

From the time which has elapsed since the operation, I hope that the happy state of things now existing will continue. But in recording this interesting case, I do not wish to attach undue importance to it, nor should I allow it to influence me in the treatment of this troublesome class of cases generally. So far as it may be allowed to generalize from a solitary case, I think we may consider it proved, that, in some instances at any rate, cauterants will suffice to procure obliteration of these cysts. Future experience will prove how far we may trust to this means; whether it will supersede complete extirpation, or, as I imagine, only take its place as a substitute when that is inadmissible.

Analogy would lead us to suppose that, in many cases complicated by important relations which preclude the free use of the knife, advan-

tage may be taken of the use of such cauterants as iodine in altering the vital properties of these secreting cysts. The type of inflammatory action originated by cauterants appears sufficiently manageable to justify their use in the treatment of a large class of cases long considered peculiarly critical. Various cysts are now submitted to cauterant action under circumstances that would formerly have been considered most unsafe. Great fear would have been entertained of the diffusion of violent reaction, beyond the anticipated limits, to structures of eminently vital importance. And, secondly, the tendency of the action so produced was viewed with much distrust. If we may be allowed to speculate further on the matter, it will probably be conceded that our predecessors were justified in their precautions by the then known tendencies of inflammatory action. Many circumstances were then in operation which modified the direction and force of inflammatory conditions. Modern medicine has gradually substituted more powerful agents for those which were found to produce the desired effects of cauterants in days gone by—as iodine for the white zinc, &c. Modern pathology indicates a general disposition to a plastic reaction, and induces us to secure and maintain a good vital force in those who undergo operations.

Finsbury-square, Aug. 1869.

### ON DIPHTHERIA.

By JAMES P. M'DONALD, L.R.C.P., Edin.

The alarm consequent upon the recent prevalence of diphtheria has become so universal, that the least soreness of the throat is now regarded in a very serious light. Medical practitioners are constantly being consulted about cases which otherwise would never have been noticed. This has led, in some instances, to doubts in the minds of many physicians and surgeons as to the real existence amongst us of the disease in question. As it has been my lot, during more than eighteen months, to have had charge of many serious and fearful cases of diphtheria, and, as a natural consequence, to have been frequently consulted as to affections of the throat, I venture to place before the profession some remarks on the subject.

I consider diphtheria to be a disease produced by a specific poison taken into the system, acting through the blood, and *seen* at the throat. The following are the usual form and course of the disease in its severest type. The patient is *suddenly* (and generally in the morning) seized with violent vomiting of a thin, yellowish-white matter, of a very offensive character; then purging of a fluid of similar appearance and smell. These dejections last an hour or so, and are followed by great prostration and stupor. The patient lies for a period varying from six to sixteen hours in a heavy sleep, from which he is with difficulty aroused, and then only to sleep

again. The skin is hot; pulse 100: the tongue is of a bright-red; drink is taken with avidity, offered, but only to be immediately returned. And now the important question is put, "Is it throat sore?" The answer is *always* the same—"Not in the least." This reply, to a physician inexperienced in the horrible malady, may be fatal to the patient. The diagnosis is that this is not a case of diphtheria. On the other hand, the experienced man *expects* this reply; he forthwith carefully examines the throat, and then he *sees* the disease. In this early stage, the tonsils, the soft palate, and the back of the pharynx present a bright shining red appearance. The small vessels are not seen individually injected, as in many forms of sore-throat, but the appearance is as though the parts had been brightly painted and then varnished. Hanging from the velum to the tongue is seen, in the stage, a transparent film of a tenacious fluid, which is burst by expiration, sending its particles over the mouth and the instrument used to depress the tongue. The next moment a similar curtain is formed. After a period varying from six to sixteen hours, the condition of the patient materially changes. The stupor has passed off, and delirium, often of a violent character, takes its place; there are the usual symptoms of cerebral excitement, and the fever runs high; breathing is quickened; the voice is changed to a thick yet shrill tone; there is a short, dry cough; (in children, evidences of coming croup;) the neck is puffy and blushed; the tongue is coated with a white fur, and all those parts hitherto so brilliantly red are thickly spotted with a whitish substance, which, in a wonderfully short period, conglomerates, and forms one thick, plastic deposit, which in time may cover the whole palate to the teeth, so that the appearance, on opening the mouth, is as though it were lined with plaster-of-Paris. The violent delirium then subsides; the powers of life fail rapidly; the horrible sensations of choking and suffocation come on; the sufferer tears at his neck with his nails, and tries to tear open his mouth, yet full power of swallowing still continues, and he greedily gulps anything given him in the shape of drink; large livid spots form on the extremities, amounting sometimes to purpura; and diarrhoea of a white and offensive matter is incessant; muttering delirium comes on, and in a long tetanic convulsion death closes the scene.

This is a truthful picture, drawn from realities, of how a previously strong and healthy man may, *in six days or less*, cease to be.

Taking the above as a fair example of diphtheria in its most marked and deadly aspect, as I have seen it, we get the resemblance to it more or less in all minor cases. We must not expect to meet with all the symptoms in every case, but the condition of the throat is invariable. Whether that condition goes on to the second stage depends on the severity of the poison or the success of the treatment adopted. In all cases

where there is either nausea or vomiting, followed by drowsiness, the throat ought to be examined, and if the redness and the "glassy curtain" appear, the immediate use of the proper applications may, I am quite certain, save many valuable lives.

There has been considerable confusion with respect to scarlet fever and diphtheria. Some have contended for the identity of the two, maintaining that those cases in which no rash appeared were to be considered as "suppressed scarlet fever." To combat this view, it will be sufficient, I think, to draw attention to the great difference in the symptoms I have described from those of scarlatina, and to state the fact of my having been my painful experience to have attended families some members of which have been swept off by scarlet fever *with diphtheria*, whilst other members, who had previously suffered from scarlet fever in a severe form, were now attacked with true diphtheria. That scarlatina invites diphtheria is very manifest, but that the diseases are perfectly distinct and different is equally certain.

Now as to the treatment. This matter has been so skilfully discussed in the columns of THE LANCET that I need not enter much into detail. The constant attention to the condition of the throat should be our first care, the second is to resist the "tendency to death." By skilful personal application of strong solution of caustic to the glazed and reddened parts, the fungoid matter may not appear, or if formed, may be separated from the surface and brought away, and thus the horrors of the disease prevented. Still, even then, there is much to be done in supporting the powers of the constitution, so as to give it assistance in eliminating the terrible poison from the system.

Bearing these two essentials of treatment constantly in mind, I know of no epidemic disease we may be more hopeful about than this. Terrible as it is to behold—its very name spreading dismay and dread to all around, yet its severity and fearful characteristics seem to succumb to the judicious and speedy treatment of the attentive physician with a kindness hardly to be expected.

Diphtheria is no respecter of person, age, condition, rank, or temperament. Should it become more seriously epidemic than it has been, no doubt it will mow down many of those unhappy people whose hard necessities oblige them to live in the over-crowded and ill-ventilated courts and alleys of our large cities. In such cases it will clearly be the mission of our profession, as in visitations of cholera, to go to the disease, and not to let it come to us.

Bristol, August, 1869.

## ON A CASE OF SANGUINEOUS TUMOR OF THE LABIUM.

By JAMES GILMOUR, M.D., L.R.C.P., &c.,

PHYSICIAN-ACCOCCHER TO THE LIVERPOOL LADIES' CHARITY.

On the 5th of February last, about five A.M., I was summoned, in great haste, to visit Mrs. M——, who it was stated, had been confined two hours previously of a living child, but the midwife considered that something was wrong, and which she did not understand. I hastened to the place indicated, and, on entering the bedroom, I found the patient lying on her back, her knees drawn up, and apparently suffering from labor pains of an expulsive character; she was deadly pale, and in great anguish.

On gently placing her on the left side for the purpose of making an examination per vaginam. I found an enormous tumor projecting from the vagina, considerably larger than a child's head, involving the whole of the left labium pudendi, mons veneris anteriorly, and anus posteriorly; the color was intensely black, the surface smooth and shiny, and studded with the hair of the labium.

I carefully examined the tumor, but could with difficulty pass my finger into the vagina; rather high up I found the os uteri, soft and patulous, indicating that labor had taken place. I searched for some rent or abrasion of the vaginal canal, but was unable to discover any. The bearing-down pains were increased by my manipulation. The patient anxiously desired that something should be done for her relief, as her sufferings, she said, were very great. I concluded that the swelling was an effusion of blood into the labium, though I had never seen such a case before.

Without further delay, I made an incision, about two inches in length along the tumor, and, with my finger, scooped out about a pint of dark clots of blood, apparently of a venous character. After carefully pressing out the remaining fluid contents, I plugged the vagina with cotton wadding, which happened to be in the room. There was no further infiltration of the swelling; adhesion of the disrupted mucous membrane took place in ten days; and, with the usual care, the woman made an excellent recovery, except that she looked anæmic for a few weeks afterwards.

The previous history of the patient is very brief. She had always enjoyed good health; married at thirty-six; her first labor was good, and she is now (when this accident occurred) about forty. This was her second confinement: her labor was easy; the placenta speedily expelled, and for an hour after she felt pretty well; but, at the end of that time, she experienced slight pains, which were taken for after pains, until the midwife discovered the vaginal tumor, when she sent for me.

This affection is not often met with, for I do not find any case of the kind recorded in THE LANCET since 1844. To the young surgeon, in-



experienced in such matters, it might prove a source of much annoyance, if suddenly confronted with a patient under the above circumstances. The reader will find full details of this strange attack after labor, in Churchill's "Diseases Peculiar to Women" (Sydenham Society), and Dewees' "Diseases of Females" (chap. ii.) Some difference of opinion exists as to the cause of this affection. I am unable, as far as my case is concerned, to throw any additional light on the subject.

Liverpool, August, 1869.

### ON THE TREATMENT OF OEDEMA GLOTTIDIS BY SCARIFICATIONS.

By JOHN TUDOR, Esq., M.R.C.S.  
SURGEON TO THE "DEADENDROUGHT."

Occasions frequently present themselves when life is placed in the greatest jeopardy, and the surgeon is called upon to act with judgment and promptitude, whether the circumstances depend upon disease or arise from injury, to avert the impending danger, instances of which will be familiar to all. No symptoms, I believe, can be more painful to witness, nor more distressing to the unfortunate patient to bear, than those affecting the free passage of air into the trachea; and upon this subject I venture to offer a few remarks which I hope may prove of some service. Oedema of the mucous membrane of the larynx results from several causes. Simple acute inflammation and erysipelatous inflammation, however, I believe to be the most common source of the affection, though it frequently arises in syphilitic and phthisical diseases of the throat. I have on several occasions, in the practice of this hospital, also observed a subacute form in anæmic patients, where the blood has become degenerated in consequence of scurvy, or long-continued intermittent. I briefly notice these facts, as my object is not to give a history of the disease, but simply to point out a method of treatment which I am sure is not sufficiently well known, nor its merits, consequently, appreciated. Some years back, my friend and colleague, Mr. Busk, was in the habit of scarifying in cases of oedema glottidis with the most marked benefit. This experience of Mr. Busk is noticed by Dr. Watson in his "Lectures."

During the last five years I have had from eight to a dozen cases in which the operation has been performed, and I am satisfied that in each of these, death must have been the consequence, or an opening been made below the seat of the obstruction. The comparative risk of the two operations must be quite evident, and from my own observation the results will not bear comparison. The rationale of the treatment by scarification seems to speak for itself. Take, for a single example, a case of paraphymosis, and observe the immediate benefit which arises from freely incising the parts. Carry this principle to the larynx, the opening into which is becom-

ing gradually occluded by an accumulation of fluid in its submucous tissue, and the same result will be obtained. From experience and conviction, I can recommend the adoption of this operation with the greatest earnestness and confidence. Of course it applies to those cases where the obstruction arises from dropsy of the parts.

A simple curved, sharp-pointed bistoury will answer the purpose of the operation; but in order to get the point well down to the base of the epiglottis, it will be necessary to bend the joint of the instrument, and fix it *firmly* at an angle with a narrow strip of plaster, or bit of tape. The blade should then be guarded with lint up to about a quarter of an inch of the point. To avoid this trouble, Mr. Weiss, according to my instructions, made me an instrument, as represented in the accompanying sketch, which is decidedly more convenient, and the handle being flat, half an inch is gained for depressing the point.



Before proceeding with the operation, the patient, if possible, is made acquainted with what is going to be done for his relief and encouraged to restrain himself as much as lies in his power. The head being firmly sustained by an assistant, the index finger of the left hand is introduced at the angle, on the right side of the mouth, and thrust back as far as possible, in order to secure the apex of the tumid epiglottis, and fix it firmly against the root of the tongue. The instrument is then carefully introduced with the right hand, guided by the left fore-finger, and passed over this to the base of the epiglottis, when three or four incisions are rapidly made through the mucous membrane. The patient is then directed to clear out the throat with forcible expirations, and gargle with water as hot as he can bear. By this means I have taken away several drachms of blood and serum, with *immediate* relief. The patient will cheerfully submit to a repeated application of the instrument, which is frequently required.

After this operation, I have seen patients who have been suffering the most urgent distress from dyspnoea and inability to swallow even fluid, in a few hours breathing with comfort, and quite able to drink beef-tea, &c. I have never performed this operation in those cases arising from scalded throat; but I should not hesitate adopting it if a case were brought under my notice. More precaution would, of course, be requisite, inasmuch as this is an accident most frequently affecting young children; and I am inclined to think, in addition, that the parts, in

consequence of the injury, would be rendered more sensitive.

August, 1859.

## ON THE USE OF ALISMA PLANTAGO IN EPILEPSY.

By E. BAINES, Esq., M.R.C.S.

William, the son of Serg. T——, of the Middlesex Rifles, a boy of eight years, has been subject to epileptic fits from a few months after birth. They have increased in frequency and intensity; his mother says that "they average six in a fortnight;" frequent eructations, generally followed by vomiting. Much attention, medical advice, and expense have been lavished on this case without benefit. He was ordered to take four grains of the powder of water plantain twice a day, and to increase the dose a grain every third day.

Eighth day.—A slight fit.

Fourteenth day.—An ordinary fit; vomiting has ceased.

Forty-eighth day.—A fit of short duration.

The intervals between the fits have extended to seventy-seven days.

The apparent controlling power of the *Alisma Plantago* in so little tractable a disease, warrants more extensive trial. The powder is palatable, of a light-brown color, and, when fresh, has somewhat the odor of cocoa. The best period for collecting the roots is at the end of August, as in mild winters they shoot (probably at the cost of the active principle.)

This genus is not new to the British physician, as Miller says of the *Alisma Damasonium* (*Actinocarpus Damasonium* of modern botanists) that "if it is wanted as a medicine, it must be gathered in its natural place of growth."

Barnet, August, 1859.

## NOTES OF THE PRACTICE OF SURGERY IN PARIS.

By C. F. MAUNDER, Esq., F.R.C.S.

### HOPITAL DU MIDI.

M. BOUCHER.

#### *Fissure of anus treated by forcible dilatation.*

—The index finger of each hand was introduced into the rectum, and dilatation effected by separating the fingers from each other until all resistance on the part of the sphincter ceased. Considerable force was employed.

#### *Subcutaneous whitlow of index finger.*—M.

Boucher remarked that in these cases inflammation and its consequences do not extend into the palm of the hand, by reason of the attachment of the skin opposite the metacarpo-phalangeal articulation to the deeper structures, thus forming a natural barrier. Swelling and effusion soon appear on the dorsum of the hand, because, in this region, the fibrous barrier is absent. Again, inflammation and abscess in the tendinous sheath of the fingers do not pass into the palm, because

the tendinous sheath ceases at the metacarpo-phalangeal articulation; but, in the thumb, the sheath is continued into the hand, therefore pus may be found in the palm; also, when the interior of the sheath is affected, the finger will be more or less fixed.

*Urethral fistula.*—The patient was the subject of three fistulæ, located within half an inch of each other, the most anterior being an inch posterior to the meatus. They are to be treated separately, the most anterior taking precedence. The edges were pared, and brought together after the manner of the quill suture, rolls of adhesive plaster taking the place of quills. No catheter was left in the bladder. The patient was desired to pass his urine through the remaining fistulæ.

### LARIBOISSIERE.

M. CHASSAIGNAC.

#### *Cancer of tongue removed by the écraseur.*—

One end of the chain was introduced through an opening in the integument just above the hyoid bone, passed through the floor of the mouth between the side of the tongue and the teeth, then over the upper surface of the tongue in front of the epiglottis, and down on the opposite side to the opening in the integument, by which it had entered. The chain was now drawn tight, and shortened to the extent of a link every half minute. Thus the parts from the base of the tongue to the hyoid bone were divided. The tip of the tongue was now removed by the écraseur, and then, the chain having been re-adapted, the remaining portion of the organ was removed by dividing its attachments to the gum and lower jaw. The operation lasted thirty-five minutes; not one teaspoonful of blood was lost, and after the first pang, consequent on drawing tight the chain, the patient did not appear to suffer severely. An easy passage for the chain of the écraseur had been previously prepared by the introduction and retention of an elastic tube.

*Tumor of thigh; excision of five inches of femur.*—The patient, a lad about eighteen years of age, was the subject of a tumor of a doubtful nature, occupying the middle of the thigh. M. Chassaignac proposed to explore, and act upon the result of the exploration. A free incision over the outer side of the thigh discovered a fungus hæmatodes, affecting the bone as well as the soft parts. A chain saw passed round the femur at the two points removed five inches of the shaft.

Last year I saw a patient in M. Chassaignac's ward, upon whom he had operated, removing portions of the bone, in a case of ununited fracture. Union had taken place, but at a very awkward angle.

Conservative surgery appears to be making rapid strides; but the profession will judge of their value. I will report on the progress of these cases in a future number.

Rue de Rivoli, Paris, August, 1862.

**A Mirror  
OF THE PRACTICE OF  
MEDICINE AND SURGERY  
IN THE  
HOSPITALS OF LONDON.**

Nulla est alia pro certo noscendi via, nisi quam plurimas et morbo  
rum et dissectionum historias, tam aliorum proprias, collectas habere  
et inter se comparare.—MORGAGNI. *De Sed. et Caus. Morb.*, lib.  
14. Proœmium.

**ST. GEORGE'S HOSPITAL.**

*Dislocation forwards of the Head of the Humerus of nearly seven months' standing; Attempt at Reduction.*

(Under the care of Mr. **CÆSAR HAWKINS.**)

When several months have elapsed after the occurrence of a dislocation of the shoulder, and new adhesions have formed around the head of the humerus, it is very doubtful whether, by attempts at reduction, anything more can be gained than an improvement in the faulty position of the arm. A complete reduction after nearly seven months becomes impossible, yet the breaking up of the old adhesions will sometimes permit the head to lie immediately over the glenoid cavity, partially filled up, or occupied by the torn capsular ligament which will thus intervene between it and the head of the bone, and form a cushion for it. If the arm be now carefully bandaged, and kept in proper position, a reduction to all intents and purposes is accomplished, for in a little while the patient will have nearly as much motion as if the reduction had been attempted considerably earlier. We have seen this done two or three times with success; one example we can call to mind under Mr. Fergusson's care at King's College Hospital, and another (in which the head of the bone had been displaced for two months) under Mr. Cock, at Guy's Hospital, wherein the result was most satisfactory. (*THE LANCET*, vol. ii., 1857, p. 471.)

Had not Mr. Hawkins' patient prematurely left the hospital it was Mr. Hewitt's intention to have done something of the kind. As it was, the breaking up of the adhesions, and bandaging the arm to the side, not only pushed the head of the bone outwards, and improved the position of the limb and the shape of the shoulder, but caused considerably increased motion.

Sir Astley Cooper considered that a reduction of the shoulder ought not to be attempted after three months. In this patient, however, circumstances were favorable for an attempt at improvement, inasmuch as there was a spurious ankylosis, and no new socket had formed to interfere with the old; a bone-setter had made but a single attempt at reduction, and no others had been done since the time of the accident. The patient's arm, therefore, was in a better condition to receive a fair trial for an improved position.

For the notes of the case we are indebted to Mr. George F. Cooper, surgical registrar to the hospital.

W. W.—, aged fifty, a stout and strongly-built man, was sent from the country to Mr. Brodhurst, and was admitted into St. George's Hospital on the 14th ult. The man stated that on the 29th of November last, he was thrown out of a cart on to his right shoulder, for which he went directly to the bone-setter, who told him that his shoulder was dislocated, and thereupon tried to reduce it. Since that time he had very limited movement of that arm.

On admission his right arm was an inch and a half shorter than the other; the head of the humerus could be felt lying just beneath the clavicle, to the inner side of the coracoid process, and could be felt to move with, and not independent of, the scapula. He could swing his arm to and fro, but on doing so, the scapula and humerus moved together, and he could not get his hand at all to his mouth.

On the 16th, the man having been placed fully under the effects of chloroform, Mr. Prescott G. Hewett, in the absence of Mr. Hawkins, forcibly broke down the fibrous adhesions between the head of the humerus and the scapula, and then attempted, by putting his foot into the axilla, and making firm extension, to reduce the head of the bone to its proper site, but could only move it very slightly. The man's hand could then be passed easily enough all over his face. His whole arm was bandaged to the side of the body, and orders were given that he should use the joint slightly every day.

June 18th.—The bandage was removed; there was no pain in the joint.

19th.—He could move his arm better than before the operation, and by the aid of the other hand could get his right hand to his mouth, but it caused him some pain in doing so.

22nd.—There was still some pain in the joint; but he could now voluntarily get the thumb of the right hand to his mouth, and there was no difficulty whatever in the use of his fork.

Two days afterwards, unfortunately, he left the hospital without permission, and did not again make his appearance.

The points to be gained in attempting any operation on this case were,—1st, to see whether any movement of the humerus could be obtained, independent of the scapula, by placing the man fully under the effects of chloroform, and so paralyzing the muscles of the arm; but if not—2ndly, to try and form a false joint by breaking up the adhesions immediately surrounding the head of the bones, and so to allow a freer play of the whole upper extremity.

## ROYAL FREE HOSPITAL.

*Absorption of three of the Ribs from Fungous Carcinoma, in a previously healthy young man; Fatal Result.*

(Under the care of Mr. DE MÉRIC.)

In the progress of cancer in the situation of the breast, it is well known that sometimes it not only affects the walls of the chest, but extends to the organs within. This result is usually observed in those cases in which the disease has been present for many years, and we have indications of it during life by the existence of well-marked physical signs of probable lung, or at any rate pleuritic, disease. The absolute absorption of the thoracic walls, and the complete disappearance of one or more of the ribs and intercostal muscles, are phenomena seldom observed, and their occurrence in recent cancer—that is to say, in cancer that has existed for three or four months—and in the male sex, is almost an unexampled rarity. A case of this kind we place upon record on the present occasion. A young man, apparently in robust health, of most active habits, and who has just contracted marriage, becomes impatient at not getting rid of a tumor in his breast, and enters an hospital. The growth resembles a cyst with semi-transparent walls, and is movable. He is anxious to have it cut out, and, as nothing decidedly dangerous is anticipated, his request is acceded to. In performing the operation, however, a large portion of the walls of the chest, including several of the ribs and muscles, is found wholly absorbed, and a cavity leads into the thorax. The patient survives but a few days.

Similar cyst-like tumors we have often seen removed. We recollect a somewhat analogous instance occurring some years ago, in which Mr. Adams amputated with success a growth from the breast of a woman at the London Hospital. The only case we know of which otherwise resembled that under Mr. de Méric's care is one which occurred in Guy's Hospital in the years 1845–51, of which the following is an outline:—

L. C—, aged forty-one, came under Mr. Birkett's observation in 1851. In June, 1845, Mr. Ashton Key had removed a tumor involving the whole of the right breast. All Mr. Birkett could learn of the disease was, that it had been growing about two years, that it was of the size of an egg, close to the nipple, and that the skin over it was inflamed and about to ulcerate. There was no anatomical description of the tumor to guide him. A healthy cicatrix was formed, and rather more than five years afterwards a tumor was developed behind the pectoralis major of the same side. This increased for two years and a half, when the growth felt very much like a cyst with fluid contents. It projected very far from the chest, and became very inconvenient. The skin over it was healthy, the axillary lymphatic glands quite normal,

and there were no constitutional indications of carcinoma. Mr. Birkett attempted to remove the tumor, but as soon as the cyst was opened he found that it led through the parietes into the chest, that the third, fourth, and fifth ribs were diseased, and that there was a large intra-thoracic growth. Having made flaps of integuments, and after removing what he could of the disease, and arresting a rather profuse hæmorrhage, the edges were brought together, and a certain amount of healing took place. The disease, however, subsequently increased, and destroyed life eight months after this second operation. A post-mortem examination was not made, but the local disease was very extensive, and frequent and profuse hæmorrhage caused her death.

The cyst in the foregoing case was not dissimilar to that in Mr. de Méric's patient, but there is this wide difference between the two: in the one there was disease more or less for ten years, and in the other for but a few months, with no indication of malignancy by the presence of cachexia or other symptoms, although the true nature of the kind of growth was suspected. In operating upon cancer of the male breast, Velpeau\* is disposed to believe that extirpation or destruction by caustic offers more chances of success in men than in women.

For the history of the following case we are indebted to Mr. Staples, and for the subsequent notes to Mr. Nathaniel Hall, house surgeon to the hospital.

J. H—, aged thirty two, a fine healthy-looking man, has always enjoyed good health, with the exception of slight congestion of the liver, and varicose veins of the lower extremities. Some time in January last he received two or three blows from the points of a person's fingers on the right side of the chest, just above the nipple. He experienced severe pain at the time, and continued to do so more or less. About the 20th of April he first noticed a small swelling, which gradually increased, and on the 2nd of May he consulted Mr. Jos. Staples, of Upper Seymour-street. The tumor was then about the size of a small hen's egg, and was situated under the pectoral muscles; it had a fluctuating feel, and could be drawn slightly from side to side. It continued to increase, and he had cold shivers. Mr. Staples was of the opinion that it was either an abscess or cyst: and as the patient's health began to suffer, and he was anxious to have it removed, Mr. Staples advised an operation. He accordingly introduced a grooved needle into the tumor, when some dark-colored blood exuded. Believing now that it was either soft cancer or a cyst filled with blood, he dissected down upon, without cutting into it, and exposed a portion of the base of a soft-cancer, which was found to be very extensive. He therefore desisted from proceeding any further with the operation at the time, and brought

\* See his work on Cancer of the Breast, translated by Mr. Maiden.

the wound together with sutures. It healed by first intention, but the cancer continued to grow rapidly, and on the 21st forced the cicatrix apart, and protruded. After this he suffered from hæmorrhage on three occasions, which was arrested by the aid of cold and pressure.

On the 11th of June he was admitted into the Royal Free Hospital, under Mr. de Méric's care, with what appeared to be a fungoid tumor of the right mamma. His constitution was still healthy and robust. There was little or no pain in the situation of the tumor, which was as big as a large orange, having attained that size in the space of three months. Breathing on both sides was normal. At the patient's urgent request, Mr. de Méric proceeded to remove the tumor on the 13th of June, for which purpose an incision was carried around the circumference of the growth, so as to completely include its attachments. In the course of the operation, however, hæmorrhage ensued to a considerable extent; and whilst endeavoring to arrest it, it was discovered that the ribs lying under the tumor were all absorbed, and that a cavity, nearly three inches in diameter, led into the thorax. Further operative proceedings were at once abandoned (although a portion of the tumor was removed), and the hæmorrhage was arrested by the application of a large sponge, covered by compresses of lint, which were kept *in situ* by a firm roller around the chest. The patient, who was under the influence of chloroform, recovered consciousness before the operation was concluded, and was given a little wine. He was allowed, in addition, six ounces of wine, as he was weak from loss of blood; and he rallied considerably before night. He was retained strictly in the horizontal position. In the course of the night bleeding again commenced, which was controlled by the application of ice and salt.

June 15th.—He complained of feverishness and great thirst; tongue brown and dry; pulse good, and much stronger than could have been expected from the amount of blood lost; appetite returning; bowels regular. He slept well, and without opiates. In the evening the bleeding again recurred, and was stopped by means of ice, as before.

16th.—Ten A.M.: Pulse feeble; fever abated. Ordered, strong beef-tea, twelve ounces of wine and four of brandy, eggs, &c. He has rallied from the effects of last night's hæmorrhage.—Six P.M.: Hæmorrhage again commenced. The compresses of lint were removed, and the bleeding stopped with the perchloride of iron.

From this time until five o'clock on the following morning the patient, who was much exhausted from successive hæmorrhage, gradually sank.

*Autopsy twenty-four hours after death.*—An incision was made along the sternum to the ensiform cartilage, and a second carried from its centre at right angles along the lower edge of the pectoral muscle. The triangular flaps thus included were dissected back, and the extent of

the disease exposed. The second, third, and fourth ribs were entirely absorbed, and the superior border of the fifth necrosed. The lung was healthy, filled with air, crepitant throughout, and not collapsed, in consequence of pleuritic adhesions around the liminary margins of the disease. The disease was not in any way connected with the lung, but it seemed to have spent itself in absorbing the walls of the chest, and protruding to a slight extent inwards. In this side of the chest were found several ounces of fluid mixed with blood. The heart was small, pale, and surrounded with large quantities of fat; indeed, this element seemed to abound all over the chest. All the other viscera were normal.

#### WESTMINSTER HOSPITAL.

*Fracture of the base of the Skull and of the Pelvis, with Compound Fracture of the Leg; Amputation; Recovery.*

(Under the care of Mr. HOLTHOUSE.)

Fractures of the pelvis are generally accidents of so serious a nature, from the violence required to produce them, that they are almost necessarily fatal. Such injuries as ensued in the two cases which we place upon record to-day were quite sufficient to destroy life, and the prognosis from the first was serious. Nevertheless, a recovery ensued in both instances. With regard to the first case, besides fracture of the pelvis, there was a fracture of the base of the skull, and a compound one of the leg, which necessitated amputation, the patient remaining in a maniacal condition for some time. An example of such severity as this proved to be, rarely recovers in our hospitals; either of the three lesions from which he suffered was sufficient to destroy the patient. Although not mentioned in the notes, we may observe that there were great soreness and threatened sloughing of the skin over the sacrum, which latter was obviated by removal to a water bed, upon which he lay for many weeks. Since his convalescence he has had a fall on the stump of the amputated limb, and two or three small pieces of bone have come away; nevertheless he possesses an excellent cushion of skin and fat over the ends of the bones.

As the injury to the pelvis was not only remarkable, but rare, we would draw special attention to it. The head of the right thigh-bone was driven through the acetabulum into the pelvis, producing the appearance as if the neck of the femur were broken, for the leg was shortened and everted. It is essential, therefore, that the diagnosis should be clear upon such an important point. The records of medical science furnish but few instances indeed of this form of fracture of the pelvis, with remaining integrity of the thigh-bone. Examples have been described by Earley, Sir Astley Cooper, Dupuytren, M'Tyer, Gibb, and some others, and these are quoted in many of the standard works

of the day. In our own pages there is recorded a case of the kind, under Mr. Moore's care at the Middlesex Hospital, which was brought before the Medico-Chirurgical Society, (*THE LANCET*, vol. i. 1851, p. 379.)

In the diagnosis between fracture through the acetabulum and that through the neck of the femur, we have the nature of the accident to guide us in the former; the limb also cannot be drawn downwards to an equal length with its fellow, nor inverted; it can be drawn freely outwards without much pain, as contrasted with a broken thigh-bone; on rotation, the trochanter moves in the segment of a smaller sphere than in the other leg; and, what is perhaps of still greater value than all these, is the remembrance that a co-existing fracture of the neck of the femur and of the acetabulum is one of the rarest surgical injuries known. But one instance is mentioned by Sir Astley Cooper, and in that the fracture extended through the trochanter. If, then, a patient sustains an extensive breakage of the pelvis, with an everted and shortened limb, it is almost a certainty that the head of the thigh-bone has been driven through the cotyloid cavity. In the event of recovery, the limb remains permanently shortened.

Edmund C—, aged twenty-eight, was carried into the Westminster Hospital, on the 13th of last May, having fallen from a height of 60 or 70 feet from the giving away of some scaffolding at the Westminster Palace Hotel. When first admitted, he was unconscious; there were bleeding from the left ear, and dilatation of the left pupil; subsequently slight ptosis of the upper lid of the same side was observed; there was also a fracture of the pelvis of the right side, the lower right limb was shortened and everted, simulating a fracture of the neck of the femur, and a compound fracture of the left tibia, with laceration of the left posterior tibial artery, existed. Besides the ptosis and dilatation of the pupil, there were no other paralytic symptoms.

For the first few days the patient seemed scarcely recovered from the shock, his pulse was exceedingly feeble, and his death was expected daily. The head was shaved, wet lint applied to it, a Liston's splint was placed on the outer side of the limb with a cradle over the leg and a pledget of wet lint over the wound in front, which communicated with the fractured tibia. His diet was strong beef-tea and brandy. A new set of symptoms now appeared; the patient became violently delirious, or rather maniacal, shouting and screaming, and tearing off his bandages, which he said gave him so much pain that he could not bear them. Nothing could be kept on his head, which appeared very tender on pressure. Hæmorrhage also, to a small extent, took place from the wound on the leg, which was easily repressed by pressure, but it continued to recur at intervals till the 7th of June, when the posterior tibial artery, from which the blood was found to proceed, was tied.

Up to this time the outbursts had always been arrested by pressure over this vessel, and the patient was altogether in so feeble a condition as not to admit of the operation being performed earlier.

On the 9th, at nine p.m., hæmorrhage again took place from the original wound in front of the leg; and the house-surgeon, supposing that the ligatures round the vessel had given way, reopened the wound which had been made to secure the vessel, but found everything in its place, and no blood between its lips: the hæmorrhage was therefore assumed to come from the anterior tibial or perineal arteries. A tourniquet having been applied, and local pressure made, the bleeding was stopped; but as a good deal of fetid, unhealthy pus escaped from both wounds on pressure, Mr. Holthouse considered that the patient would have a better chance of recovery if his leg were removed, than if another operation were performed in search of the bleeding vessel. Taking advantage, therefore, of the incision which had been made previously to secure the posterior tibial artery, another was made parallel with it on the outer side of the limb, and the two connected by a transverse incision below: a very good and abundant anterior flap was thus formed of skin only, while a short flap posteriorly completed the operation, according to Teale's method. The patient lost but little blood, and rallied well from the operation. It was observed at the time that a portion of the skin forming one of the lower angles of the anterior flap was thickened, indurated, and unhealthy-looking; and on the 14th, this was found to be in a state of slough; the patient's pulse also was very frequent and feeble: he was therefore ordered three grains of quinine every three hours, and the brandy, of which he had previously taken fourteen ounces daily, was increased to twenty-four ounces. Several of the wire sutures were removed, and a yeast poultice applied to the stump.

June 15th.—The sloughing process was arrested; the appearance of the patient had much improved; the pulse had fallen to 92 and was stronger.

17th.—Slough separating; pulse 88; his general appearance much improved. He will have a good stump, the slough not having extended to that portion of skin which covers the ends of the bones.

19th.—Slough quite separated, and its place occupied by healthy granulations.

24th.—Stump nearly healed; pulse 66; tongue clean; appetite good. He was yesterday placed on full diet, and has twenty ounces of brandy and a pint of porter daily. Convalescent as regards his general condition, but he is not yet *compos mentis*, being still unable to converse in a rational, consecutive manner. He will answer the first question put to him rationally, but will then diverge into some topic altogether irrelevant. He has no memory of anything that has happened; he cannot even re-

member events occurring only a few hours since, and will lose his temper with the nurses or his wife, whom he charges with neglecting him, and not coming near him, notwithstanding their attentions have been most assiduous, and he has never been left alone.

July 18th.—A few days after the last note was made, his intellectual faculties returned, and for the last fortnight he has been going about the ward on crutches, and is gaining strength and flesh. He recollects nothing of the accident, beyond the fact that he was wheeling a barrow on the scaffolding at the moment it gave way; but from that time till the 26th of June, when he was removed from a private ward in which he had been placed into the general ward, his existence was a blank. He has no recollection of either of the operations, and was surprised to find he had lost his leg.

#### ST. THOMAS'S HOSPITAL.

##### *Fracture of the Ramus of the Ischium of the Right Side, with Rupture of the Urethra; Recovery.*

(Under the care of Mr. LE GROS CLARKE.)

Of the fatal complications which are often associated with injuries to the pelvis, laceration and rupture of the bladder, urethra, or rectum, are not the least important. Now and then some of the larger bloodvessels are torn across. In the following case the urethra was ruptured, and the patient could not pass any urine. With some difficulty a catheter was introduced into the bladder, and the urine drawn off, thus showing this viscus to be intact. The instrument was retained until a recovery took place.

For the notes of the following case, we are indebted to Mr. W. Allingham, surgical registrar to the hospital:—

Thomas S—, aged twenty-eight, a guard on the South Eastern Railway, was admitted into Henry's ward on the evening of the 14th of April last. It appears that this man was crossing part of the rails at London-bridge, when he was struck by an engine, which was coming up to the station at the rate of about nine miles an hour. The first blow he received was upon his right hip, and as he was trying to scramble out of the way, he was again struck just above the right eye, and fortunately knocked off the rail, so that the engine passed without running over him. When brought to the hospital, he was in a state of considerable prostration, complained of great pain in the right groin and perinæum, and was unable to pass his urine. Some stimulant was administered, and the house-surgeon on duty passed a catheter, which seemed to enter the bladder, but no urine escaped. On examination a contused wound was observed on the right hip, and fracture of the ramus of the ischium was detected. Mr. Le Gros Clarke saw him at ten P.M., and found that the urethra was ruptured; he with some difficulty introduced a

catheter into the bladder, and drew off his urine, which was colored by blood. The patient's sufferings were greatly aggravated by a troublesome cough, which he has had for some time past. The catheter was retained in the bladder, and twenty minims of Battley's sedative solution were ordered.

April 15th.—He slept at intervals during the night, and is not in any great pain, except when he coughs; there is extreme tenderness on pressure all over the abdomen; the urine is only slightly tinged with blood; the pulse is quick, and skin hot; bowels are confined, and some castor oil has been ordered. To continue the opiate.

16th.—He slept pretty well last night, but his cough is troublesome, and he can feel the grating of the fractured bone when he coughs; he takes his food pretty well, and seems cheerful; bowels not yet acted.

17th.—Much the same. Mr. Clarke ordered a calomel and colocynth pill, and, as his cough was very troublesome, the following draught every four hours: half a drachm of compound tincture of camphor, and two drachms of the liquor of the acetate of ammonia, in water.

18th.—His cough kept him awake very much last night; he has less pain in the groin and perinæum, and the abdominal tenderness has subsided; the urine is now clear; bowels open; skin cool; tongue clean; pulse quiet. Ordered, half a grain of morphia at bed time.

20th.—His cough is much better; countenance cheerful; urine slightly tinged with blood this morning; he has no headache nor shivering, and no pain unless he moves—he then, however, feels the bone grate. Mr. Clarke removed the catheter to-day for the purpose of having it cleaned, and he replaced it without much trouble. The patient was ordered to be placed on a water bed yesterday, and finds it very comfortable.

27th.—He is going on exceedingly well; has not had any shivering, nor any unfavorable symptom; when he moves, he no longer feels crepitus; his appetite is good.

May 2nd.—The catheter was taken out to-day, and not replaced, and he finds that he can pass his urine tolerably comfortably and freely; his cough does not trouble him, and he is exceedingly cheerful.

16th.—He sits up in bed now, has no pain on moving, and passes his urine with ease; he is very anxious to get up.

24th.—He is now able to walk about the ward on crutches, and, although weak, feels quite well; he is going into the country to recruit his strength.



## "DREADNOUGHT" HOSPITAL SHIP.

*Cholera and Choleroïd Diarrhœa.*

(Under the care of Dr. BARNES.)

The record of the earliest cases of a cholera epidemic is always replete with interest. In addition to their individual pathological features, it is upon these cases that the most important questions as to origin and mode of propagation must mainly depend for illustration. Whether the following cases, (for the histories of which we are indebted to Dr. Barnes' case-book, and to Mr. Bedford, the physicians' assistant,) mark the beginning of an epidemic, or whether—as we cannot but hope—they will remain isolated instances, they possess value as a chapter in the history of that formidable disease which now seems to become a periodical scourge to this country.

Down to the 28th of July, the general health of the *Dreadnought* had been excellent. Notwithstanding the offensive emanations from the river, there has been no particular disposition to diarrhœa, certainly not so much as has been remarked at a distance from the Thames; and during the last fortnight the state of the river had been so much improved, that it had comparatively ceased to be annoying. On the 28th and 30th of July five remarkable cases were admitted.

CASE 1.—C. W——, aged thirty-six, from Sydney, left his ship on the 15th, in the London Docks, and lodged in the neighborhood. He went to Euston-square Station on the 23rd, where he was taken ill with purging, vomiting, and cramps; he was taken to University College Hospital, but left in the afternoon, relieved. He was again seized with purging; his stools, he says, were "frothy, and like beer." When admitted, his skin was warm, pulse good, and tongue furred. He had infusion of cusparia, one ounce; dilute nitric acid, twenty minims; tincture of opium, ten minims; every four hours. Milk and beef-tea. The purging subsided, and on the 1st of August he was doing well.

CASE 2.—A. B——, aged nineteen. He left Poole on the 9th of May for Hamburg, and was "there two or three weeks;" drank copiously of water from the river. He left his ship—the *Eagle* sailing-vessel—on the 28th, when she came into the pool from Hamburg, and was admitted on board the *Dreadnought*. Had been ill four days with purging, vomiting and cramps; had serous evacuations every half-hour; had also hæmoptysis; skin, especially of abdomen, hot; pulse quick; face suffused. Ordered cusparia, nitric acid, and laudanum mixture; milk and beef-tea. Under this treatment he improved: but on the 1st of August, as there was still a disposition to purging, with cramps in the belly, and hot skin, Dr. Barnes prescribed a pill of acetate of lead, two grains; and opium, one grain; to be taken every four hours. On the 2nd of August he had passed urine, and was better, but the skin was still burning.

CASE 3.—On the same day, (July 28th,) W. G——, aged thirty-four, chief mate of the *Eugénie*, an American ship, was admitted. The *Eugénie* had sailed from the gulf of Florida with pitch-pine, and had been in the Commercial Dock about ten days. The crew had left; the chief mate, a boy, and a ship-keeper being the only residents on board for the greater part of the time. On the evening of the 27th, W. G—— was observed to look not so well as usual. At one A. M. of the 28th, he was seized with vomiting, purging, and cramp. He was admitted on board the *Dreadnought* at five-and-twenty minutes past ten A. M., in extreme collapse; skin blue, clammy; hands and feet shrivelled. If a fold of skin were pinched up, that fold remained like a dead man's. There was no capillary circulation; the vital elasticity of the skin was gone. Rice-water evacuations; pulse imperceptible: eyes sunken; voice husky. Ordered hot-air bath, frictions with flannel, mustard epithems, saline drink. At four P. M. still collapsed, but he rallied a little towards evening. Complained of great thirst; tongue dry. Dr. Barnes ordered ice and iced water; calomel, a grain every hour; and saline drinks; dry cupping to the loins. On the 29th and 30th, although the skin, and especially the face, remained somewhat dusky, the pulse weak, and the voice cracked, he had considerably rallied. He had passed no urine since admission. On the 31st he seemed still better, but no urine. On the 1st of August, in the morning, his condition seemed no worse; he passed a small quantity of thick, dark urine; and a further small quantity about two P. M.; still frequent bilious vomiting. At three P. M. he began to flag, and died at four P. M. The urine being received in a vessel with chloride of lime, could not be subjected to chemical examination. We were informed that this man was addicted to whisky drinking. A visit to the ship *Eugénie* disclosed a very dirty condition of the upper deck, and water brought from the Gulf of Florida, kept in casks, was still in use. The water had no smell, but it was dirty. Dr. Barnes called attention to this case as an example that the return of urine was not an absolute ground for a favorable prognosis.

CASE 4.—T. H——, aged twenty-nine, a stoker, admitted the 30th of July from the *Cosmopolitan*, a steam-ship running to Hamburg. This man was taken ill in the pool on the 24th, being sick and purged. He, however, kept to his work, went out to Hamburg, and was admitted on Board the *Dreadnought* when the ship came into the river on the 30th. There was bile in fæces; sickness and purging had abated; no collapse; skin hot. Ordered calomel, a grain every hour. He went on improving, and on the 1st of August he was ordered cusparia, nitric acid, and laudanum mixture. This case, although, perhaps, deserving the epithet "choleroïd," may, Dr. Barnes observed, have been only a case of diarrhœa, of the same character as many hundreds occurring about the same time in all parts

of London. On the 2nd he was still jaundiced, but on the whole better.

CASE 5.—J. D——, aged twenty-five, a sailor, also from the *Cosmopolitan*, admitted on the 30th of July. Almost all the men on board were seized after leaving Hamburg on the 28th, "being worked upwards and downwards." One man, a stoker, was landed at Gravesend, and died; another was brought to the *Dreadnought*, and died on the stage before he could be got to bed. J. D—— and T. H——, of the same crew, were admitted. J. D—— was taken at two P. M. on the 28th, when the ship was entering the mouth of the Thames, with purging; he felt weak and exhausted. This morning he had cramp and vomiting; passed a small quantity of urine; hands and feet shrivelled, not cold; vomiting continued; great thirst; tongue dry; pulse weak. Collapse not profound. Ordered calomel, one grain every hour: hot-air bath. Had four evacuations in two hours. He improved somewhat, although bilious vomiting continued. On the night of the 31st he slept well; had two watery evacuations. August 1st: pulse 84; skin warm; has passed no urine since the morning of admission. Dry cupping to the loins. Continue saline drink. Aug. 2nd: Passed urine; skin warmer; vomiting in the night; two stools of natural color; still hiccough; on the whole better.

It was remarked that *after* the admission of the above cases, several patients exhibited a tendency to diarrhoea—namely, a man on the surgical deck, which is above the medical deck, on which the choleroïd cases were; and two others on the medical deck. It seemed as if a cholera atmosphere were suddenly developed. The deck was by no means crowded. It seemed that the milk disagreed with several persons: it was not perceptibly soured, but Dr. Barnes, believing that a partial change might very quickly take place during the hot weather, ordered it to be kept cool by throwing in lumps of Wenham-lake ice from time to time. It was thus preserved better, and was undoubtedly more grateful to the fevered patients.

#### GUY'S HOSPITAL.

##### *Prolapse of the Rectum, and Stone in the Bladder.*

(Under the care of Mr. COOPER FORSTER.)

Mr. Coulson tells us, in his work on "Diseases of the Bladder," that prolapsus of the rectum, especially in young children and old men, is by no means an uncommon complication. It is at all times a source of inconvenience, and especially so during the performance of lithotomy. The presence of this relaxation of the bowel may completely mask the symptoms of stone in the bladder, and relief may be sought for the former whilst the presence of a calculus is quite unsuspected by the parents of the child. At Guy's Hospital, a fine, healthy-looking boy was recently

brought for advice, for prolapsus of the rectum, associated with diarrhoea; and as he had pain in passing his motions, a catheter was introduced into the bladder, and a stone detected, which was the cause of the other symptoms. Under these circumstances, lithotomy was performed on the 2nd inst., and a mulberry calculus as large as a walnut extracted by Mr. Cooper Forster.

In this child, before the operation, there were no symptoms present referable to any lesion of the bladder, but the irritation produced by the stone was sufficient to interfere greatly with the normal firmness of the rectum. Both the diarrhoea and the prolapsus have ceased since the operation, and they will doubtless now disappear altogether. This case is instructive, as showing that an examination of the bladder should not be neglected when a child is brought under notice with prolapsus of the bowels.

Whilst on the subject of stone, we may refer to another case, recently under Mr. James Lane's care at St. Mary's Hospital. A child, aged three years and a half, was admitted with prolapsus of the rectum, and a stone was detected by the sound, although unsuspected by the parents, as in Mr. Forster's patient. It was removed by Mr. Lane on the 22nd of June, was as large as a bean, and composed of urate of ammonia. He made a small external incision, and used the staff of the late Mr. Aston Key, which is nearly rectangular. A recovery has ensued in both patients.

#### UNIVERSITY COLLEGE HOSPITAL.

##### *Ununited Fracture of the Humerus, and Anchylosis of the Elbow of the same Arm*

(Under the care of Mr. ERICHSEN.)

A rather novel case is at the present time in the above hospital. A young man, aged twenty years, was sent up from the country, and admitted on the 21st of June. His right humerus had been fractured by a steam-engine about three inches below the head of the bone; this did not unite, and a false joint formed. In the meantime the elbow became ankylosed in a perfectly straight position, and, when the arm was raised, the false joint of the ununited fracture formed an artificial elbow, and permitted flexion of the limb at that part. With such a state of things the entire arm was actually useless.

On the 22nd of June, the false ankylosis of the elbow was treated by forcible flexion. Mr. Erichsen then cut down upon the ends of the ununited fracture, drilled several holes, and placed three ivory pegs in the upper and two in the lower ends of the broken bone.

The next day the entire arm was attacked with erysipelas, and measures were at once adopted to subdue it. This, however, did not prevent the wound from partly healing up. The inflammation subsided, terminating in an

abscess at the side of the thorax, which had to be opened.

One of the ivory pegs came away, having probably been loose; a large quantity of callus was thrown out, completely surrounding the site of the old fracture, and consolidation has progressed most favorably, and eventually a useful arm will be regained. The flexed elbow was for a while kept quiet in a semi-flexed position on a splint, which at the time supported the arm, and now there is some motion in the joint. The patient's health is perfectly good.

#### KING'S COLLEGE HOSPITAL.

##### *Fissure of the soft and hard Palate.*

(Under the care of Mr. FERGUSSON.)

Three examples of fissures of the palate were submitted to the notice of the pupils at King's College hospital on the 6th inst. All were not precisely alike in their deformity. In the first patient, a girl about sixteen years old, the cleft extended through the soft and hard palate; that through the former had been operated upon by Mr. Fergusson twelve months ago with success, and on the present occasion the remaining part of the fissure (through the hard palate) was closed—after separating the mucous membrane from the bone—by paring the margins of its centre only, and bringing them together by means of a single interrupted suture. A small surface of mucous membrane thus remains in contact before and behind the suture, which if not united hereafter, can be readily made to do so by the application of nitric acid.

The second instance was also in a girl, aged eighteen years, and differed from the preceding in being a favorable case of simple fissure through the soft palate only. The levator palatæ muscles of the two sides were divided, and the margins of the fissure were pared, and then brought together by silver wires. Chloroform was not given in these cases. The operation was most satisfactory in both.

A rare and severe example of this deformity was presented in the third patient, a woman about twenty-two years of age, who had a wide gap in the soft and hard palate running through the right nostril and lip, thus presenting a hare-lip in addition. In early life, the latter had been remedied by an operation, but there was still much disfigurement of the features, there being a circular opening leading into the left, and a triangular opening into the right nostril. In this case, too, the fissure in the lip was on the right of the mesial line. The gap in the soft palate was so wide, and the tissues so scanty, that Mr. Fergusson would not advise an operation, as, even in the event of success attending it, a large gap in the hard palate would still be left. The deformity in the face, which, he said, was not attributed to any fault of the surgeon who operated upon her when a child, he remedied by a renewal of the operation for hare-lip :

that is, he divided the lip through the old cicatrix, removing a portion of it, and then adjusting the margins with nicety by means of pins and twisted sutures. This was done under chloroform.

The three varieties of cleft palate were thus witnessed on a single occasion: in one, the fissure extended through the soft palate; in another, through the soft and hard palate; whilst in a third, it extended through both palates, as well as through the nostril and lip. Mr. Fergusson's original views in regard to the operation of cleft palate are so well known to the profession that we need not recapitulate them; they will be found in the last edition of his "Practical Surgery." He has now operated eighty-one times, with only two failures. A third instance was attended with only partial success, as the deformity was so great that an operation under any circumstances could hardly have been expected to prove very beneficial.

#### ST. MARY'S HOSPITAL.

##### *The Value of early Conservative Measures in Strumous Disease of the Knees; good Effects of the Iodide of Sodium.*

(Under the care of Mr. URE.)

The following case (for which we are indebted to Mr. Achille Vintras, house-surgeon to the hospital) is instructive from a twofold point of view. In the first place, the morbid process was arrested by early surgical interference in the complete removal of the carious bone. Had the destructive process been allowed to go on, in a short time the knee-joint would have been so much involved (the patient being of strumous habit) as to have been amenable to no treatment short of amputation. In the second place, great advantage was derived from the iodide of sodium, and it had the unexpected effect of clearing the hazy cornea, without any topical measures, and thus affords an additional proof of the value of this remedy.

Jane C—, aged twelve years, was admitted on Oct. 22nd, 1858. She was of strumous habit, thin, worn, and wasted by suffering. The cornea of the left eye was nebulous. Over the inner side of the head of the left tibia was an extensive ulcerated surface, about four inches in diameter, presenting large, flabby, unhealthy granulations; and, in the centre, a depression, in which the bare surface of the tibia, about the size of a fourpenny piece, was seen exposed, and of a dark-grey color. The secretion of pus was abundant. It was stated that about three weeks before her admission, an inflammatory swelling, like a large boil, had made its appearance in the above situation, which, after a lapse of a week, burst, and was followed by rapid ulcerative destruction of the textures down to the bone. She had suffered from pain in the shin-bone ever since she can remember, and also complains of

pain referred to the patella, but not in the sore. She lies with her leg completely bent upon the thigh, and screams whenever any attempt is made to straighten the limb. The tongue clean, but pale and flabby; the appetite pretty good; pulse 80. A mixture, containing bark, and an opiate at night, was ordered for her; a poultice to be kept constantly on the knee.

Oct. 27th.—Slept well; appetite good; pulse 78. It was determined in consultation to examine the patient, under the influence of chloroform, in order to ascertain the extent of the disease, and, in the event of the knee-joint being implicated, either to amputate the limb, or perform excision of the joint; otherwise to remove simply the diseased portion of bone, and trust to appropriate constitutional treatment for the recovery of the patient.

On careful exploration, it was found that the upper end of the tibia was separated from the epiphysis, stripped of periosteum, and diseased to the extent of more than an inch. This morbid portion was removed with bone-forceps, some of the adjoining unhealthy granulations snipped off with scissors, and while the patient was still insensible, the limb was gradually extended and attached to a Macintyre splint. The block of bone thus removed was somewhat rectangular in shape, measuring from side to side fully an inch and a half, and from above downwards rather more than half an inch. The surface presented the eroded, worm-eaten appearance characteristic of scrofulous caries.

28th.—Nausea from the effects of the chloroform; skin cool; pulse natural; no complaint of any pain.

Nov. 2nd.—The patient is doing well; the bottom of the wound is covered with granulations.

20th.—The wound is nearly filled up; the patient looks better and stronger; appetite very good.

Jan. 3rd, 1859.—The patient has been improving rapidly since the last report.

18th.—The sore had almost cicatrized under the use of a weak solution of nitrate of silver; but towards the margins there remained two or three circumscribed patches of superficial ulceration, which seemed spreading and indisposed to heal. The girl looked sickly. She was ordered five grains of iodide of sodium in an ounce of cod-liver oil mixture thrice daily.

28th.—A speedy improvement has followed the use of the iodide of sodium; the complexion has regained a healthy hue; the appetite is excellent. The little patient feels stronger, and the sores look much healthier.

Feb. 10th.—The splint has been removed, and the patient can now sit up in a chair, and move the knee-joint a little without complaining of any pain; the sores have all healed.

A curious circumstance is, that the haziness of the cornea of the right eye, which heretofore had prevented her from distinguishing objects, has so far dispersed as to enable her to recog-

nize persons. This nebulous cornea was, no doubt, the sequel of previous scrofulous corneitis—a condition which often yields to the use of alterative medicines.

12th.—Discharged cured.

#### ST BARTHOLOMEW'S HOSPITAL.

*A Tamarind stone lodged in the Windpipe of a Child; Expulsion after the operation of Tracheotomy.*

(Under the care of Mr. SKEY)

In the interesting case which follows, it is most probable that the small tamarind-stone was lodged in the right bronchus, from the fact of its being expelled, on coughing, from below the opening made in the trachea. There was not any visible change in the respiration of the two sides, and this would lead us to infer that complete obliteration of one of the bronchial tubes had not ensued, which partly accounts for the rapid expulsion of the stone when the trachea was freely laid open.

Of the various substances which have entered the windpipe, writers mention cherry, plum, and tamarind stones, natural and artificial teeth, fragments of bone, pieces of flint, food, nuts and nutshells, coins, buttons, shot, grass, beans and seeds, pieces of nutmeg, crumbs of bread, nails, &c. The symptoms of chest disease will vary according to the time the foreign body remains in the lungs, which may sometimes be for years, but they are usually those of chronic irritation of the lung.

William S—, a handsome-looking boy five years of age, was admitted into Lucas ward, under the care of Mr. Skey, on the evening of July 14th, with the following history: He had been playing with other children up to within twenty minutes of his admission, and had been up to that time in perfect health. Suddenly the mother's attention was drawn to the child by reason of its cries, and he seemed to be on the point of suffocation. It appeared that the children had had some tamarinds given them a little while previously; and the mother believing that the symptoms were due to one of the tamarind-stones in the windpipe, turned the child with its head downwards, in the hope that the foreign body might fall out. This hope, however, was not gratified, and she at once sent the child off to the hospital. At the time of admission the condition of the patient was as follows: He was sitting up in his father's arms; the expression of the face was extremely anxious, but there was no lividity or duskiness of the face or lips. The extremities were quite warm. Respiration hurried; inspiration stridulous; cough ringing and metallic: in fact, the breathing and the cough resembled those heard in croup. The symptoms would now and then become less severe; and the child would fall back in a dose, again to be awakened in a few minutes by another paroxysm. Nothing could be detected in

the pharynx by the finger. Air entered freely into the chest, and no difference whatever could be detected between the respiratory sounds on the two sides; and no information could be obtained as to the locality of the foreign body.

*Operation an hour and a half after the accident.*—The child was placed under the influence of chloroform without exciting the least irritation in the trachea. The first incision was made rather long, extending from immediately below the cricoid cartilage to the sternum. On dissecting down to the surface of the trachea, some bleeding occurred. It was not considerable, but was sufficiently great to preclude any immediate attempt to open the air-tube. Mr. Skey therefore desisted for some minutes, during which the bleeding ceased. The trachea was then opened to nearly the whole length of the outer wound, and a pair of curved forceps introduced downwards towards the chest, and also in the opposite direction, without success. The edges of the wound in the trachea were then separated as widely as possible by means of a pair of sharp hooks, and shortly afterwards a sudden cough discharged the tamarind-stone with some force through the wound. The operation being satisfactorily completed, the extremities of the outer wound were approximated by means of plaster, the centre being left free. After the operation, Mr. Skey made the following observations:—

"Tracheotomy is an operation not very readily performed, and still less so when it is required to open the trachea low down in a child by gas-light. It is not always easy to hit the exact line of interval between the sterno-thyroid muscles, and this can only be effected by dissecting quite vertically from the surface on which the outer wound occupies exactly the mesial line. When exposed, the trachea should be opened freely, without regard to the thyroid isthmus. Unless time be an object of consideration, (and it is rarely so urgent as to require the operation to be hastily completed,) any reasonable number of minutes may be devoted to the entire arrest of bleeding. The size of the aperture in the trachea will depend on the motive dictating the operation. If for the escape of a foreign body, such as a plum or a tamarind-stone, the opening should be large—in truth, as large as it can be made in a child of five years of age. In the case of this boy (as well as in that of a child operated on by Mr. Paget last year, who adopted my suggestion of considerable lengthening his incision in the trachea,) the opening was very large, extending, I believe, through at least five or six rings of the tube. I doubt the expediency of the attempt to remove the offending body by means of forceps of any description yet invented. Preferable is it to await the return of cough, which, in the act of extraction, will inevitably carry the foreign body with the current of air through the larger and the nearer orifice in preference to the smaller and more remote. Inasmuch as we are

supposed to be acquainted with the nature, and therefore can form a tolerably accurate idea of the size of the foreign body, we can in some measure judge of the magnitude of the opening required for its escape. I am not aware of any great increase of danger or difficulty created by the division of a greater over a less number of rings, or, in other words, in making a large opening instead of a small one.

"The success of an operation of this kind is much dependent on the skilful co-operation of the assistant. In the above case, the edges of the wound in the trachea were held asunder by Mr. Savory; and when we consider the peculiar structure of the trachea, the importance of this duty must be obvious. In the recorded case of Mr. Paget, the same part of the operation devolved on me, and at the moment of escape of the foreign body, I was engaged in the act of dilating the opening in the trachea to the fullest extent it was susceptible of. I felt myself indebted to Mr. Savory for his very efficient operation, upon which the success of the operation so largely depended."

July 15th.—The boy has passed an extremely good night; skin pungently hot, and dry; respiration, 40 per minute; inspiration seems to take place entirely through the larynx, but expiration partly through the wound and partly through the larynx; pulse 130; tongue coated with a moist, whitish fur; the subcutaneous tissue over the right pectoral muscle is emphysematous; no morbid sounds in the chest. To have one-twelfth of a grain of tartar emetic with half a drachm of simple syrup, in a drachm and a half of water, every second hour.

16th.—The child is much better; the skin moist, and cooler than it was; respiration only 24 per minute, and no air passes through the wound, except when the child breathes very deeply or coughs; pulse 140; wound looking healthy; no morbid sounds in the chest; the emphysema has not extended; the bowels acted last night. To leave off the antimoneal draught, and to have an ounce of the tartrate of soda mixture every four hours.

17th.—The child is now sitting up in bed, playing with his toys; the wound is granulating up. To have a couple of eggs, milk, and beef-tea, also, twenty minims of the liquor of cinchona, and ten minims of the aromatic spirits of ammonia, in half an ounce of water, three times a day.

#### GREAT NORTHERN HOSPITAL.

*Lithotomy; Second Performance of the Operation after the lapse of Thirteen Months; Recovery.*

(Under the care of Mr. PRICE.)

A second operation for stone in the bladder is sometimes necessary, but instances are rarely seen in which, a second stone having formed during a few months, the repetition of a cutting

operation is required. Mr. Price, on the 25th of July, at the above hospital, removed a calculus from the bladder of a man sixty-four years of age. The patient appeared much harassed by continual suffering. The operator stated that, thirteen months before, he had removed a phosphatic calculus of considerable size by the lateral operation; the nucleus of the stone being a portion of effused blood. A rapid recovery from the operation took place. With regard to the present operation, Mr. Price said he could see no reason why the various operative steps should in any way differ from those employed at the first operation, and had therefore carried his incisions into the bladder in the direct line of the former wound. Had he not been aware that the patient had been already operated upon, it would have been impossible to surmise the fact from any indication met with in the passage of the finger and knife along the urethral track. The external incision was made directly through the old cicatrix. The stone was not large, and had the urethra and bladder been less irritable, a crushing instead of a cutting operation would have been adopted.

Mr. Price stated that about two or three years since, he had removed a full-sized lithic acid stone from the bladder of a man aged sixty-four; and in about eighteen months afterwards his patient again sought his advice for the relief of similar distressing symptoms affecting his urinary organs. The existence of calculi being proved, the man again submitted to lithotomy, and five stones were removed. In this instance the incisions were made on the same side of the perinæum, and the same tissues were divided, as in the first operation. The patient made as rapid a recovery from the second operation as from the first.

The patient now in the hospital has gone on uninterruptedly without a single untoward symptom.

*Partially Encysted Calculus; Removal by Lithotomy; Recovery.*

(Under the care of Mr. LAWSON.)

The following case will be found not less interesting and important than the preceding:—

John M—, aged sixty-five, late a corporal in the 16th Hussars, was admitted into the above hospital on July 23rd, laboring under all the usual symptoms of stone in the bladder. He dates the first symptoms as far back as 1819, when he suffered intense pain in the loins, for which he was under treatment in the Bristol Military Hospital. He was subsequently discharged, unrelieved, and admitted into the old York Hospital, Chelsea. After having been there some time, he gained relief; but on attempting one day to micturate, a small calculus passed from the bladder into the urethra, where it became impacted, and was removed by the surgeon. In 1820 he was invalided from the army. Since that period, he has continued to suffer more or less from pain in the loins, and

has at various times passed by the urethra gravel and small calculi. His urine, so far as he can remember, has, ever since his first attack, deposited a tenacious, ropy sediment. The present urgent symptoms commenced about eighteen months since, and have continued to increase in severity.

The condition of the patient on admission was that of extreme emaciation and debility. He had an almost incessant desire to pass his urine, and complained of a heavy, dragging pain in the loins. His urine deposited a large amount of mucus, and some pus. No casts were detected under the microscope. On examining the bladder with a sound, Mr. Lawson detected a stone, evidently of large size, and lying close to the prostate.

On the 29th of July, the usual operation for lithotomy was performed by Mr. Lawson, and a large lithic acid calculus removed. Some little trouble was experienced in catching hold of the stone, in consequence of its lying in a pouch of the bladder close to the prostate, from which it was with difficulty dislodged. The stone presented an appearance very characteristic of its having remained for some time partially encysted. A clear margin around its long circumference marked the depth of its seat in a pouch of the bladder; while above this line there was a copious reddish deposit, evidently of more recent date than that which formed the bulk of the calculus. The patient has progressed most satisfactorily since the operation.

## Clinical Records.

### LUPUS SUPERFICIALIS.

We have watched with some interest the treatment of a case of the superficial form of lupus in a young man twenty-two years of age, who has been an inmate of the Charing-cross Hospital since the 22nd March, under Dr. Willshire's care. The superficial layers of the dermis of the entire face and cheeks were affected; and at one time the disease was present on his neck also, the duration of it altogether being fourteen years. As our readers are aware, the skin assumes a red and angry look, with exfoliation of the cuticle and gradual thinning of the integument. It is characterized, too, by the absence of tubercles and scabs. The treatment pursued here consisted of the internal administration of arsenic, dulcamara, elm bark, and of cod-liver oil, the latter being likewise used as a local application. A really wonderful effect has been produced in the disease in a short time: the redness is diminishing and slowly disappearing, exfoliation has almost ceased, and the healed-up skin is assuming a thin and shining appearance, somewhat resembling ambustial cicatrices. Some authors think this form of lupus essentially scrofulous.

Whilst on the subject, we may refer to another case, in an old woman, under Dr. Willshire's care, at the Royal Infirmary for Women and Children, wherein the disease has assumed the more severe form of lupus exedens. Arsenic is given internally, and the cod-liver oil is freely applied externally, with benefit, as the ulcerations are healing up. Dr. Willshire is using the extract of larch bark, in many different skin affections, in five-grain doses; it is a remedy of much value.

#### ENORMOUS RANULA.

At the Cancer Hospital lately, under Mr. Weeden Cooke's care, was an eccentric old woman, who has had a ranula for some years, which had grown to the size of a large orange. When in the mouth it protruded one cheek in the most unsightly manner, and when allowed to hang out of the mouth it was like a transparent jelly-bag. She was in good health, and able to eat and talk with but slight inconvenience. Many surgeons have seen it, and wished to operate; but she steadily resisted all such interference. Not being allowed to snip out a portion of the membrane, Mr. Cooke proposed the application of potassa fusa, to make an aperture which would not close up readily; but this also she decidedly objected to.

It is very seldom that a ranula is seen larger than a walnut or pigeon's egg, because when it attains that size under the tongue it pushes this organ upwards and backwards, and sometimes most seriously interferes with both speech and deglutition. If the cyst continues to increase in Mr. Cooke's patient, it may spontaneously rupture, and partial relief be thus brought about. Such a ranula as this cannot be said to be a dilatation of Wharton's duct.

#### SUPRA-AURICULAR NÆVUS.

The cases of nœvi and aneurisms by anastomosis, which are the most troublesome to cure beyond the period of childhood, are those in which their situation lies either behind or immediately above the ear. Some remarkable instances of the kind have from time to time been recorded in our "Mirror." In such cases it is sometimes necessary to tie some of the great branches arising from the internal carotid, or else the common carotid itself has to be ligatured. All danger comparatively is averted if the nœvus is obliterated in infancy or childhood. On the 14th ultimo, an infant was brought into the operating theatre of St. George's Hospital with a well marked and prominent nœvus on the scalp immediately above the left ear; it possessed the ordinary characters, was not very vascular nor likely immediately to become so; but as such an eventuality was very certain if the child was permitted to grow up with it, the nœvus was strangulated by Mr. Pollock in the usual way. Its size was that of a shilling. At the present day, almost every child with a nœvus

gets rid of it when young; and it is becoming very rare for an adult to place himself under treatment for a neglected vascular growth of this kind.

#### COPIOUS SECRETION OF MILK IN THE BREASTS OF AN INFANT.

The breasts of new-born infants are known to contain a small quantity of milk, which does not occasion the slightest inconvenience. Sometimes this fluid accumulates, the gland becomes swollen, and if not attended to it will give rise to inflammation and abscess. Fortunately, this is of rare occurrence, and very little danger is to be apprehended from this temporary turgescence. A few weeks back, a male infant, four weeks old, was brought to the St. Pancras Royal Dispensary, with the presence of milk in both breasts, in such quantity as to require to be got rid of daily by gently pressing the glands towards the nipple. The mother seemed to think it was increasing instead of diminishing. A small quantity of it was examined by Dr. Gibb, who found it to possess all the characters of ordinary milk, the fat globules being plentiful, and the sugar abundant. It was even less watery than other specimens of infants' milk which he had examined. In other respects, the child's health was perfect. Brandy and lard had been locally applied to arrest the secretion. This was the mother's seventh child, and in none of the others was there any excess of lacteal secretion.

The milk was got rid of by giving mild aperients, and by removing what there was in the breasts, as that process had been commenced. It now became less and less, and no inconvenience was experienced.

An abscess in the breast of an infant is occasionally observed, as the result of over-officiousness on the part of some nurses, who make a practice of squeezing out the milk from the breasts of every child they attend, a proceeding which cannot be too strongly condemned.

#### EXTENSIVE FRACTURES OF THE SCAPULA AND NINE RIBS; DEATH.

The injuries were too extensive and serious, in the following case, to permit of recovery. The wonder is that the patient's sufferings were not more acute, when we consider that many of the ribs were broken in two places. We avail ourselves of the following notes, clinically reported by Mr. J. E. Davey, one of the pupils of the hospital.

Francis A——, aged sixty-seven, traveller, was admitted into the accident ward of Guy's Hospital on the 8th of June, 1859, under the care of Mr. Cock. The patient, a strong, healthy-looking man, of temperate habits, was attempting to cross the road in the Borough, when he was knocked down by a Hansom cab, the wheel passing over his shoulders from the left to the right side. He was picked up and conveyed to the hospital. On admission he was



very much prostrated, but perfectly sensible. On the left side, several ribs were diagnosed to be fractured; and finding he had no use in the left arm, and the clavicle not being fractured, an examination was made in the region of the scapula. Crepitus could be distinctly felt and heard by the stethoscope, and Mr. Cock detected emphysema. There being such severe injury, and so many ribs fractured, a flannel bandage, just tight enough to support the parts, was applied. At first he could only lay flat on his back, with the shoulders slightly raised. He had no cough, but after a day or two he suffered from a kind of bronchitis (which he frequently had in winter). He never expectorated anything but a white, frothy mucus, and there was not the slightest stain of blood. The lung on the left side did not seem to be doing its work, and on the right side puerile breathing was very audible. The patient was now too ill to allow of proper examination of the chest.

June 9th.—At times quite delirious; great difficulty of breathing; bowels opened; tongue slightly furred, pulse 94.

10th.—Still very ill; has passed a very bad night; great difficulty of breathing. Ordered, half a drachm of tincture of opium. At eight p.m., being very much more oppressed, he was ordered two ounces of brandy, and an antimonial pill with opium every four hours.

11th.—Much the same.

12th.—He has passed a rather better night, but is still very much oppressed and very restless; has no pain, but complains of great difficulty of breathing.

13th.—Died this morning, an hour previous to his death suffering from extreme dyspnoea.

*Post-mortem examination, twenty-two hours afterwards.*—No signs of decomposition. Rigor mortis present. Body tolerably healthy for an old man, but considerable excess of fat. Head not examined. All the upper ribs of the left side were fractured, and most of them in more than one place. The first nine were fractured in their middle, and all these, except the first two, at their angles also; the broken ends projected inwards; but the pleura was only slightly injured. Scapula fractured transversely immediately below the spine, the fissure running through the neck, but not quite penetrating the glenoid cavity. From this spot another short fissure came downwards and inwards into the middle of the bone; and besides this fracture, another longitudinal one existed, running down the back of the bone at a distance of not quite half an inch from the edge: a rim of bone was thus completely broken off. On opening the chest, the left lung was found collapsed; about eight ounces of blood in the chest. There was no lymph on the pleura, except at a spot on the posterior surface and upper part of lower lobe of the lung. On scraping off the exudation, a laceration an inch in length, but quite superficial, was seen. The right lung was healthy. Pericardium healthy. A considerable excess of fat

on the surface of the heart; valves and lining membrane healthy; peritoneum, jejunum, ileum, and cæcum healthy. Liver excessively fatty. Prostate slightly enlarged, especially the middle portion, which projected into the bladder, and must have caused some impediment. Bladder also hypertrophied.

#### SIMPLE EXTENSION IN CONTRACTION FROM BURNS.

We lately had the opportunity of observing the treatment of a case of deformity arising from an old burn in a little boy, nine years of age, under Mr. Coote's care at St. Bartholomew's Hospital, which is worthy of notice. It is a plan in use, we believe, at the Orthopædic Hospital, and consists in the proper application of simple extension, perseveringly carried out. The boy was admitted on the 7th of April, with his lips and mouth drawn downwards from a burn in the neck when an infant. The cicatrix possessed the usual characters of hardness and thickening. By suitable appliances the head and chin were kept extended, with the effect of bringing back the lower lips and jaw to their natural position, and getting rid of the extreme deformity which had heretofore existed. The mouth can now be closed.

The effect of the extension is to cause the absorption of the adventitious material present in the cicatrix, and thus permit the latter not only to become soft and extended, but permanently to remain so.

#### A VITREOUS FOREIGN BODY SUCCESSFULLY REMOVED.

A popular notion prevails that wounds produced by contact with glass are of a very festering character, and that when portions of that substance remain lodged the danger becomes much more increased. In small wounds of the fingers and hands, wherein minute fragments of vitreous substances sometimes get forced in, much swelling and inflammation will occasionally ensue from the irritation which they cause; but, as a rule, glass cannot be said to be a greater irritant than many other foreign bodies. As a proof of this we cannot do better than refer to the case of a young man, at the present time in St. George's Hospital, who eight weeks ago was hurt by a skylight falling upon him, a portion of the thick splintered glass entering his right loin, as we understood, and subsequently passing down into the back of his thigh. A loose body could be very distinctly felt amongst the muscles in that part, and, after chloroform had been administered, an incision was made by Mr. H. C. Johnson over the projecting end, and a piece of thick glass, between four and five inches long and three quarters of an inch wide, was withdrawn by the aid of a pair of forceps. This body had thus been lodged there for some weeks, yet the amount of irritation produced by its presence seemed comparatively trifling. The patient is doing well.

# CEREBRIFORM TUMOR ON THE FOREHEAD OF AN INFANT.

Tumors, or growths of any kind, about the region of the face or forehead of infants, must always be looked upon with suspicion, when from being small they suddenly take on a disposition to grow rapidly. Such an occurrence leaves an impression on the mind of malignancy, which, in nine cases out of ten, turns out to be but too true. A very comely and well-developed male infant, sixteen months old, was brought to Guy's Hospital, with a distinct round tumor, of the size of an orange, situated on the right side of the forehead, but extending beyond the median line towards the left side, and projecting slightly downwards, so as completely to close the right eye. It felt soft in some places, and somewhat fluctuating in others, and did not convey the idea of its being a cyst. The infant was born with it, but at that time it formed a mere speck. It slowly enlarged up to a few months back, since which its increase has been remarkably rapid. On the 5th of July, chloroform was administered, and a small trocar was introduced by Mr. Birkett into its seemingly fluctuating part, a few drops of blood escaping. An incision was now made across the tumor from above downwards, when it was discovered that the nature of the growth was cerebriform cancer. The base of the tumor was encircled by a distinct wall of bone; but as it was impossible to say whether the disease sprang from the bone, or directly from the dura mater itself, any further interference was abandoned. The wound was, therefore, closed, and the child given to its mother. Such cases produce a melancholy impression, as the means of cure are wholly beyond the reach of medical art.

## A LARGE NUTRITIOUS ARTERY OF BONE.

If the student refer to almost any work on anatomy or physiology, he will find that scarcely a sentence is devoted to the consideration of the nutritious arteries of bone, beyond the mere mention of the locality of the nutritious foramina themselves. An examination of Mr. Quain's great work on the Arteries will equally disappoint him. It is to the very small, although not less important, bloodvessels, which enter the minute foramina found on the outer surface of bone, that the growth, development, and nutrition of the osseous system depend. When a leg is amputated and a bone sawn across, there may be a little vascular oozing from the osseous section, particularly if there has been much irritative disease around it. We see this frequently when slices are removed from the articulating surfaces of joints. More rarely do we witness the pumping of blood from a distinct arterial trunk in the medullary canal itself. Such a peculiarity, however, in which the medullary artery was derived no doubt from the nutritious vessel, was seen at the Charing-cross Hospital on the 18th June. The left thigh of a

young man, aged nineteen, a seaman, was amputated at its upper third by Mr. Canton for general necrosis of the entire tibia, with disease extending to the knee-joint, of a year's duration. When the leg was removed, a distinct pumping of blood took place from a rather large vessel, which could be distinctly seen in the medullary canal. It was as large as one of the interosseous branches of the radial artery given off in the palm of the hand, and of course could not be tied. Bleeding was arrested by applying a small plug of lint, which afterwards came away when the stump was nearly healed. The presence of a large nutritious artery in such a situation is a circumstance of much interest to both the physiologist and the surgeon.

## EMACIATION FROM PROBABLE PRESSURE ON THE THORACIC DUCT.

Most physicians are aware of the extreme difficulty there is in making out with anything like certainty the diseases of the pancreas, from the position occupied by that organ. Sometimes enlargement is distinctly felt, and, taken with a certain set of symptoms, it may help us, to a slight extent, in arriving at a diagnosis. Thus, there may be an indistinct tumor, as was at one time apparently present in a young woman, who is an inmate of Guy's Hospital, under Dr. Habershon's care. It was felt once towards the left hypochondrium, and taken in connection with certain gastric symptoms and extreme emaciation, it was believed that this gland was diseased, and probably pressing against the thoracic duct. She is twenty-two years of age, and was admitted on the 15th of March; her illness has lasted for four years, during the last two of which her sufferings have been greater. Although she has but little appetite, she eats her food, but it is followed by great pain. She is extremely pale and emaciated, and seems to be getting thinner every day. Dr. Habershon believes there is disease of the pancreas, or at any rate that something is present which is probably pressing on the thoracic duct, and thus prevents the fluid from passing along its natural channel. She is single, and has had amenorrhoea nearly two years and a half. Her treatment has consisted, amongst other things, of the tincture of aconite internally, and the application of the extract outwardly, to allay gastric pain. She is taking the most nourishing and easily assimilable diet, the digestion of which is assisted by suitable medical agents.

If the pancreas is organically diseased, which seems the most probable conclusion, the forms from which to choose will be hypertrophy, induration, degeneration, (whether fatty or cartilaginous,) cancer, and tuberculous disease, to which may be added cysts and calculous concretions. The knowledge of the fact that cancer is the most common affection, would be of assistance here, were it not that, although there is the most extreme pallor, there is no cachexia. The diversity which prevails in the disturbance of

one or more of the functions of life in pancreatic disease nearly precludes the possibility of stating what special form of malady it may ultimately prove to be.

#### A CYSTIC TUMOR OF THE ROUND LIGAMENT IN A WOMAN.

This patient was twenty-three years of age. She had suffered last July from typhus fever, and became much emaciated; she perceived, during her convalescence, a swelling in her right groin, which had the aspect of a rupture, and was so considered at first by herself. She had previously suffered from a left femoral rupture. Since that time it had gradually increased in size: she believed that it became larger and harder when she walked. Twelve years previously she had an abscess form near the spine; since then her health had been moderately good. When examined carefully, there was found a soft uniform enlargement of the right labium, and a hard, oval swelling in the groin, closely adjacent, but separated by a distinct demarcation. It was of the size of a large walnut, freely movable under the skin, and devoid of impulse on coughing; it was not reducible into the abdomen, and had never been so. As the patient suffered considerable inconvenience from its presence, Mr. Coulson exposed the tumor by incision, and on dissection met with a cystic growth attached to the round ligament, containing a transparent serous fluid. The incision healed kindly. The hypertrophied labium continued unaffected in size, and by the patient's desire, a considerable portion was also subsequently removed by Mr. Coulson. The cellular tissue examined after the operation was found to be infiltrated with soft gelatiniform matter.

#### IMPETIGO RODENS AFTER VACCINATION.

The form of impetigo which goes by the name of spreading or eating impetigo of Willan, is of rare occurrence. Most dermatologists, including Biett, have seen but few examples of it. Bateman never met with an instance of it. It is a remarkable form of the disease, although so little known, and has the tendency to destroy the tissues which are affected. Gilbert speaks of it as commonly occurring on the nose, commencing in one or more groups of miliary pustules, which are rapidly converted into a brownish-yellow crust, analagous to that of impetigo; but under this crust, which is surrounded by an inobscure redness, a spreading ulceration forms, which partially or entirely destroys the skin, and ultimately leaves a deep cicatrix.

These characteristics of the disease were present in the left arm of a girl, aged twelve years, who has just left Charing-cross Hospital, where she has been under Dr. Willshire's care since the 21st of June. In this patient the affection followed upon vaccination when she was very

young, and has continued more or less constantly. It has healed up under the use of the syrup of the iodide of iron internally, and the local application of the oxide of zinc ointment with benzoic acid, leaving behind an indelible cicatrix. When the arm healed up, the disease broke out in the head, but this also yielded to constitutional measures. An interesting question here arises, as to what was the cause of the occurrence of this rare and unusual form of impetigo in the arm. Was there a poison taken into the system with the vaccine virus? The probability is that there was, else it would hardly have appeared immediately upon vaccination; although some pathologists might urge that the tendency to such a disease already existed in the system, and was lighted up by the simple operation performed. The case is one of such extreme interest that we are glad to have an opportunity of recording it. Bateman, from the description given by him of this disease, seems to have looked upon it as of a cancerous nature, affecting the subcutaneous areolar tissue as well as the skin. Another instance of the same disease, affecting the head of a woman, has since been admitted, under Dr. Willshire's care.

#### RESECTION OF THE SHOULDER.

As contrasted with excision of the knee, that of the shoulder is one of considerable rarity, although we are quite prepared to expect it to prove the most successful of the like operation performed on any given joint of the body. It was resorted to at Guy's Hospital, on the 19th of July, upon a young man twenty-two years of age, whose right shoulder had been diseased for nine months, without any assignable cause. He was admitted on the 14th inst., with his arm hanging quite powerless at his side. Fistulous openings led to eroded bone, which was made out to be the head of the humerus; and a distinct grating sensation was felt on very slight rotation of the arm. The head of the bone was removed, with a small portion of the shaft, through a single longitudinal incision. The greater part of the encrusting cartilage was gone; the tuberosities were enlarged, and the bony structures much softened and porous. The glenoid cavity was perfectly healthy.

We will record the case at greater length when the cure which is anticipated is effected, merely observing, for the present, that the patient is doing very well.

#### RAPID CARCINOMATOUS INFILTRATION OF THE MAMMARY GLAND.

The rapidity with which certain organs of the body become infiltrated with carcinoma is sometimes astonishing. A patient, for example, may suddenly discover that her breast has become diseased from some cause or other, and, when examined, it turns out to be cancer. A case of this kind (a truly melancholy one for the poor woman) was recently admitted into King's Col-

lege Hospital, under the care of Mr. Bowman. She was between thirty-five and forty years of age, and had noticed that her breast had been affected for six weeks, with a more or less general induration; the nipple was slightly retracted; two or three subcutaneous nodules of the disease were present on the sternal side of the affected (right) breast; and, lastly, the neighboring axillary lymphatics were already engaged in the mischief. Such a state of things was serious under any circumstances; and yet, as she learnt the chance that an operation held out of even temporary relief, she gladly hailed it, and implored that it might be done. Mr. Bowman yielded to her solicitations, and the gland and its affected skin were amputated on the 16th inst.; and although the disease did not extend behind, the areolar tissue, right down to the pectoral muscle, was at the same time taken away. The edges of the wound were brought together by the silver sutures.

A section of the diseased mass showed the usual characters of carcinoma in its early stage. We have no doubt, from present appearances, that the patient will recover from the operation, but that she will remain long without its recurrence is extremely doubtful.

### Medical Societies.

AUGUST—SEPTEMBER.

#### ROYAL MEDICAL & CHIRURGICAL SOCIETY.

MR. F. C. SKEY, President.

#### ON THE CONNEXION BETWEEN THE HEAT OF THE BODY AND THE EXCRETED AMOUNTS OF UREA, CHLORIDE OF SODIUM, AND URINARY WATER, DURING A FIT OF AGUE.

BY SYDNEY RINGER, ESQ.,  
Late Physicians' Assistant in University College Hospital.

The author commences his paper by a reference to the observations of Von Baerunsprung, Zimmermann, Michael Wunderlich, and others, on the temperature of the body during ague; and to the observations of Traube and Lochman, Redenbacher, Moos, and Hammond, on the excretion of urea, chloride of sodium, and water, during the fit. He then states that the object of the following paper was to trace out more particularly the connexion, if any, between the height of the thermometer and the excreted amount of these substances; and he then describes his method of investigation, and the precautions taken against sources of error. His observations were made on two untreated cases of ague (one of quotidian and one tertian) in University College Hospital, under the care of Dr. Parkes; and they are recorded in a series of charts and tables, showing the following particulars:—

1. The temperature of the body, as judged of

by the thermometer, in the axilla, (after the manner of Wunderlich,) every quarter of an hour, for several hours before, during, and after the fit.

2. The hourly excretion of urea, before, during, and after the fit, in the first case; and the excretion according to stages, in the second case as determined by the method of Liebig.

3. The hourly excretion of chloride of sodium and of urinary water during the same periods, in the first case; and the excretion by stages in the second.

4. The quantity of fluid drunk.

The following are the results in the first case (quotidian):—

The temperature of the body commenced to rise from forty-five to ninety minutes before any change was perceived by the patient, and continued to rise during the whole of the cold stage, and during part of the hot; it fell during the latter part of the hot and the whole of the sweating stage. The severity of the fit could be determined by the character of the rise, whether rapid or with oscillations, and by the variations of the temperature during the several stages; but the charts of temperature, and the comments given at length in the paper, must be consulted in order to exhibit this clearly. The urea was found to increase during the fit, as stated by Traube. The increase commenced before the first feelings of cold, and before, indeed, the rise in the thermometer. The maximum increase of urea was at the end of the cold stage, or just at the commencement of the hot (i. e., before the temperature reached its highest point), and from this point the amount fell during the hot and sweating stages. There were variations in the amount of urea which closely corresponded to variations in temperature, but often preceded them a little. The amount of increase was considerable (from 200 to 500 per cent.), and was definite—that is, during five successive fits, the amount corresponding to each degree of temperature was the same, so that the temperature might be calculated from the amount of urea, or the reverse. A greater increase corresponded to a single degree at a high than at a low temperature. The excretion of urea was not influenced by the excretion of urinary water. The chloride of sodium was also increased, and varied with the temperature, but in a much less close degree. The increase was very considerable, and was at its maximum at the same period with the urea. The excretion of chloride of sodium was evidently much more closely connected with the excretion of water than in the case of urea. The urinary water was also definitely increased—i. e., a certain quantity for each degree: and this was evidently independent of the fluid drunk. The amount of fluid drunk in no way influenced the total amount of water excreted. Much more was drunk than was excreted.

The author next related the observations made on the same patient when quinine was given

A scruple being given before the fit, and just as the temperature commenced to rise, delayed the rise for an hour, but had no other effect on the temperature on that day, and none on the urea, chloride of sodium and water. Another scruple being given at night, after the fit, completely cured the patient, as far as subjective symptoms were concerned. On the following day, he had no shivering, no warmth, and no sweating, and the temperature remained the whole day quite normal, yet the urea and chloride of sodium increased at the time they would have done had he had a fit. On the next day, the temperature was still normal, but the urea and chloride of sodium still rose during what would have been the fever hours; but the rise on this day was much less than on the day before. The effect of quinine, then, was to dissociate those two phenomena—namely, the temperature on the one hand, and the excretion of urea and of chloride of sodium on the other. The same fact has been noted by Redenbocher. The quinine affected the temperature at once, but the urea and chloride of sodium more slowly.

In the second case (of tertian ague) the temperature followed the same laws. The urea, chloride of sodium, and water were determined only during each stage. There was found to be an increase in all three constituents, the increase being greatest during the cold stage. The urea was more than double the amount in the cold stage than in the previous apyretic hours. In this case charts are also given of the pulse, showing its close correspondence with the temperature.

In addition to these cases of ague, the author subjoins one of hectic fever, occurring in a phthisical patient of Dr. Walshe. The subjective phenomena were very similar to those of ague, as there was a well-marked cold, hot, and sweating stage. The temperature followed the same rules as in ague, and there was also an increase in the urea and chloride of sodium during the cold and hot stages. There was a difference in this respect, however, that the urea fell before the rise in the temperature commenced, and that its increase afterwards was even less than in ague. It also rose again just at the end of the sweating stage. So that in spite of the diversity, of course the phenomena would appear to be very similar in ague and hectic fever.

The author concludes his paper with a series of conclusions, recapitulating all the results to which his observations have led, and which have been given generally in the above abstract.

**CASE OF EXTENSIVE ADHESION OF THE INFERIOR MARGIN OF THE SOFT PALATE TO THE POSTERIOR WALL OF THE FAUCES, WITH A DESCRIPTION OF THE PARTS SEEN ON DISSECTION.**

BY WM. TURNER, M.B. LOND. M.R.C.S.,  
[Demonstrator of Anatomy at the University of Edinburgh.  
Communicated by JAMES PAGET, Esq., F.R.S.

In this paper the author describes a curious case of palato-pharyngeal adhesion, which

came under this notice in the dissecting-rooms of the University of Edinburgh, and to which his attention was directed by his friend, Mr. Paull. Upon looking into the mouth, it was observed that there was a complete absence of the uvula, and that there was no communication between the back of the mouth and the usual part of the pharynx, except through a small rounded hole situated immediately on the left side of the middle line, and corresponding apparently with the upper part of the arched orifice usually found at the base of the uvula. The separation of the nasal from the buccal parts of the pharynx in this almost complete manner was due to the adhesion of the inferior margin of the soft palate to the interior of the pharyngeal wall. The adhesion had apparently taken place along the folds of mucous membrane containing the palato-pharyngei muscles. The mucous membrane, especially about the line of junction, presenting a roughened and cicatrized appearance. The posterior surface of the pharynx exhibited certain alterations in its walls. It was very much contracted in its lateral diameter, being not more than half an inch across immediately opposite the hamular processes; this contraction corresponded exactly with the line of union of the soft palate to the interior of the pharyngeal wall. The upper part of the pharynx consequently presented a funnel shape. The greater part of the fibres of the superior constrictor muscles had their place occupied by a thickened membrane; the right stylo-pharyngeus muscle was also greatly altered at its lower part by fibrous thickening. The other pharyngeal muscles, and those portions of the tensor and levatores palati which were situated outside the pharynx, presented their normal appearance. By removing the roof of the nasal part of the pharynx, the interior of this portion of the tube was observed to be shaped like a funnel or inverted cone, the floor being formed of the obliquely inclined soft palate; and at the most depending part, the small rounded aperture of communication with the buccal part of the pharynx was seen. The mucous membrane on the upper surface of the soft palate exhibited the same roughened appearance as on the under.

No history of the case could be obtained; but the author infers that, from the cicatrized appearance of pharyngeal and palatal mucous membrane, the thickened and roughened condition of the posterior pharyngeal wall, the replacement of muscular fibres by fibrous tissue, and the constriction of the part, that the change from the normal state must have been produced by severe inflammation at some former period.

The author then refers to the only two recorded cases of a similar nature he has been able to meet with—one by Rudtorffer, in his "Abhandlung;" the other by Otto, in his "Handbuch der Pathologischen Anatomie."

Mr. Turner then draws attention to certain

physiological conclusions suggested by the case—1st, the almost complete obstruction to nasal respiration; 2ndly, the impairment of the function of the voice, not only as regards its resonance, but also with respect to the formation of many of those sounds in the production of which the movements of the soft palate play an important part; 3rdly, to influence exercised upon deglutition.

In connexion with the part played by the soft palate in the function of deglutition, the author, after referring to the observations of Dzondi, Müller, and Hilton, directs attention to the recent description by Merkel of the mode of termination of the fibres of the palato-pharyngeal muscles in the pharynx. He confirms by his own dissections the description given by that anatomist of the decussation of the lower fibres of those muscles across the middle line posteriorly; but is not disposed to go entirely with him in his views respecting their exclusive termination in this manner. He considers that the muscles end below as follows:—That the external fibres join those of the stylo-pharyngeal, and are inserted along with them; that the middle fibres gradually lose themselves in the pharyngeal wall on their own side; and that the internal fibres pass across the middle line posteriorly, and decussate with the muscle on the opposite side.

SEQUEL OF A CASE (PUBLISHED IN THE LAST VOLUME OF THE "MEDICO-CHIRURGICAL TRANSACTIONS") OF A CALCULUS IN THE BLADDER REMOVED BY LITHOTRITY, IN WHICH A COMMUNICATION EXISTED BETWEEN THE BLADDER AND INTESTINE.

BY CHARLES HAWKINS, F.R.C.S.,  
Consulting Surgeon to Queen Charlotte's Hospital, Inspector of Anatomy, etc.

The patient, whose case is related in the last volume of the "Medico-Chirurgical Transactions," died on April 19th, 1859, a year after the operation. On a post-mortem examination, no stone was discovered in the bladder. The kidneys were somewhat congested, but in other respects healthy in appearance. There was an opening in the bladder at the lower part of the posterior wall, of the diameter of a goose-quill, evidently not of recent date. The bladder, corresponding to this aperture, was intimately united by old adhesions to that part of the circumference of the sigmoid flexure of the colon that lies nearest it. The aperture in the bladder communicated with the sigmoid flexure opposite their point of union. Above the point of communication of these two viscera, for the extent of about an inch, the canal of the sigmoid flexure was somewhat constricted; but this constriction was apparently due to the adhesion and subsequent contraction of these viscera, as beyond the point where adhesion between them existed the calibre of the sigmoid flexure appeared normal. Below the orifice of communication between the bladder and colon, the canal of the intestine was greatly constricted to the extent of an inch and a half in length; this

stricture appeared to depend upon great condensation and subsequent cicatrization of the submucous and muscular tissues of the bowel at that point. The mucous membrane of the intestine above the seat of stricture presented in many places pouches varying in size from that of a pea to that of a filbert, and formed by the protrusion of this coat externally. Opposite to the stricture it appeared to be in every respect quite healthy, but very densely convoluted. Below the seat of stricture the bowel was considerably dilated, and had during life apparently acted the part of a second bladder, as, from the symptoms described by the patient, the urine used to accumulate there in considerable quantities, being passed per anum.

The post-mortem examination quite bore out the opinion previously advanced by the author.

#### MEDICAL SOCIETY OF LONDON.

MR. HILTON, F.R.S., President.

Mr. de Méric related a case of

#### RECURRENT FIBROID TUMOR ATTACHED TO THE OS UTERI.

The patient was a German lady, forty years old and unmarried, who was admitted into the Pay ward of the German Hospital on the 16th of March.

*State on admission*.—A globular mass lying in the vagina, of the size of an adult fist, and connected with the posterior lip of the os uteri. Paleness and debility. Much hæmorrhage from the examination.

*History*.—Six months before admission a tumor was removed piecemeal from the vagina in Germany; the patient remained almost an hour under chloroform, and lost much blood during the operation. Was told the whole growth had not been taken away, and was confined to bed for eight weeks after the operative procedures. Has had frequent and very severe attacks of hæmorrhage up to the time of admission.

*Operation*.—After it had been ascertained, with the assistance of the physicians of the hospital, that the case was one of polypus, and not *inversio uteri* (the latter not being likely, as the patient had not borne children), it was resolved to bring down the tumour and cut the pedicle after securing it with a ligature. Gooch's canulæ and an *écraseur* were, however, in readiness, in case it were found very difficult to bring down the polypus. On the 15th of April the operation was undertaken by Mr. de Méric, assisted by Drs. Lichtenberg and Frommann, the patient being narcotized with chloroform. Two vulsella were applied to the neck of the uterus after the vagina had been well dilated, and traction was gently made, whilst the womb was pressed downwards by the hand of an assistant, placed on the hypogastrium. The uterus yielded to some extent, the lower con-

vexity of the globular mass being seen at the vulva; but the former showed a tendency to sink into the sacral cavity, so that it was thought advisable to use traction on the polypus itself, and this was done by means of the short delivery forceps. This instrument being passed in the ordinary way and locked, the gentlest traction, with a motion from side to side, sufficed to bring out the mass, which then fairly protruded outside the vulva. A strong whip-cord ligature was then applied to the pedicle, but with some difficulty from want of room. The first being thought insecure, a second was applied higher up, and the pedicle divided with a blunt pointed bistoury. No hæmorrhage took place, even when the ligatures, which proved to be insufficiently tight, slipped away on the least pull upon them. Cold water was thrown up the vagina, and the patient, who had all the time been under the influence of chloroform, was put to bed. This lady did extremely well, and has completely recovered.

The tumor was of a firm, fibrous consistence, with apparent cysts, which proved to be merely elevations of mucous membrane. Dr. Frommann, resident physician to the hospital, examined its textures under the microscope, and found it composed of caudate, elongated cells, between the meshes of which were noticed a great number of nascent cells with recent nuclei. This structure would resemble that of the tumours which Mr. Pagnet has described as the recurrent fibroid tumors. This author says that their "chief characteristics are, that their general aspect very closely resembles that of the common fibrous tumors, their microscopic structure consisting of corpuscles, caudate and elongated, as if developing into fibres; and the most striking feature in their history in their proneness to return after removal. This is the kind of tumor," adds Mr. Pagnet, "which Professor Gluge looks upon as examples of the forms transitional to cancer. He names them *albuminous sarcoma*." Müller was of the same opinion.

Mr. de Méric now submitted the question—Whether this was a recurrent fibroid tumor, or a development of a portion of the polypus left after the first operation? But he had brought forward this case principally because it illustrated the opinion of some members of the Obstetrical Society expressed at the meeting after the reading of Dr. Elkington's paper on "Polypus of the Uterus."\*

At that meeting Dr. Routh had very justly mentioned that there need be no fear of hæmorrhage, and that the ligature made the patient liable to the dangers of purulent infection. Mr. de Méric had no doubt that Dr. Routh was right in thinking that the *écraseur* would render good service in operations of this kind. He (Mr. de Méric) had ordered an *écraseur* from Mr. Matthews, of Portugal-street, that it might be used in cases of need. It was, however, not resorted

to, partly because the tumor was brought down beyond the vulva, and partly because the loop of the chain was, on examination, found too small to be slipped over the globular part of the tumour. The propriety of the measures adopted by Dr. Tyler Smith was also proved by this case—namely, the division of the pedicle a few minutes after applying a wire ligature at once tightened by a winch. Still more was Dr. Murphy's opinion, that "most, if not all, polypi might be drawn down and cut off at once without any injurious loss of blood," supported by this case. Mr. de Méric considered that, with large polypi, the use of the short delivery forceps was preferable to the method mentioned by Dr. Murphy—namely, "applying a ligature first, and then, by means of it, drawing down and cutting off the pedicle with scissors."

Mr. de Méric considered that the diagnosis in his case was rendered easy by the fact of the patient never having borne children; but it was plain that, in such cases, the greatest care should be taken to ascertain the nature of the tumour, and determine whether it was a polypus or the inverted uterus. That mistakes occur is shown by Dr. Elkington's second and third cases, in the first of which polypus was mistaken for inversion, the error being exactly the reverse in the latter.

The author finally stated that Gooch's opinion, expressed in the following words, may now bear some modification. This eminent physician says (p. 133 of his work, lately republished by the New Sydenham Society)—"I have never used any other means but the ligature, and as it has served me successfully for many years, and in numerous cases, so that I wish I had as good cure for all diseases, I shall not abandon it for the knife, which, if I may judge from cases which have been related to me, is not always so safe and successful."

## ROYAL SOCIETY.

SIR BENJAMIN BRODIE, BART., President.

ON THE STRUCTURE OF THE ULTIMATE AIR-TUBES, AND THE DISTRIBUTION OF THE BLOODVESSELS, OF THE HUMAN LUNG.

BY A. T. H. WATERS, ESQ.,

Lecturer on Anatomy and Physiology, Liverpool.

The bronchial tubes terminate in a dilatation, into which open a number of cavities, to which various names have been given, but which the author proposes to call "air-sacs." The air-sacs connected with a terminal bronchial twig, with their vessels, &c., constitute a "lobulette." The lobulette consists of from six to twelve air-sacs; the latter are somewhat elongated cavities, lying side by side in the lobulette, and separated from each other by thin walls; in shape they are polygonal, from mutual pressure of their parietes. They all communicate with the dilated extremity of the bronchial tube which forms the common mouth or centre of all the sacs. They have no lateral orifices of com-

\* See LANCET for July, p. 44.



munication with each other. They often divide, or give off other sacs. The air sacs of one lobulette do not communicate with those of another. The walls of the air-sacs are covered with a number of small, shallow, cup-like depressions, separated from each other by partial septa: these depressions, or alveoli, are very numerous, their number varying in different air sacs from 8 to 20. The lobulettes are supported externally by the pleura; but within the lung, in part by the bronchial tubes and blood-vessels. The membrane forming the walls of the air-sacs in a lung inflated and dried is very transparent, and constitutes, by its projection towards the centre of the sacs, the septa of the alveoli. Each lobulette is distinct and separate from those which surround it. The separation may be sometimes seen in the inflated infant's lung, but the observation of the fœtal lung affords the best proof of it. The author alluded to investigations he had made on the lungs of fœtuses, which confirmed the view he had taken of the arrangement of the ultimate pulmonary tissue, and of the separation between the lobulettes. The air-sacs are fully formed before birth, and each lobulette is seen as a little red body attached to an air-tube. By a partial or complete inflation of the fœtal lung, the arrangement of the air-sacs may be distinctly made out. The bronchial tubes at their termination have a special character: a number of alveoli like those of the air-sacs are found in their walls. They are best seen in the lungs of some of the lower animals, as the cat. The author has found them in the infant, in the last divisions of the bronchial tubes and their dilated extremity; in the adult, only in the dilated extremity: they seem to become obliterated with advancing age. Their existence was first pointed out by Rossignol.

*The bloodvessels of the lungs.*—The pulmonary plexus is situated in the walls of the air-sacs; when formed it maintains a tolerably uniform diameter throughout; the spaces between the vessels, in an injected and inflated preparation, are somewhat larger than the vessels themselves. The branches of the pulmonary artery do not anastomose till they reach the termination of the bronchial tubes; they anastomose freely in the air-sacs. The author believes that the vessels of one lobulette do not anastomose with those of another; that consequently in the adjoining walls of two lobulettes two layers of capillaries lie side by side, and therefore in such situations the blood in a single capillary is not fully exposed to the air on both sides. The radicals of the pulmonary veins issue from the periphery of the lobulettes, and, forming larger vessels, run in the interlobular spaces to the root of the lung. After briefly alluding to the general opinion of the distribution &c. of the bronchial vessels, the author described the results of his own injections. Injection of the pulmonary artery, so as to fill the plexus but not the veins, does not inject the vessels of the

bronchial tubes; but if the veins are filled, the bronchial tubes become partially injected. Injection of the pulmonary veins, whether the plexus be well filled or not, always injects the bronchial tubes. Injection of a bronchial artery, when fairly within the lung, produces injection of the bronchial tubes, and the fluid returns by the pulmonary veins. It is difficult, in man, to fill the vessels of the extreme bronchial tubes through the bronchial artery.

*The bronchial veins.*—The author has never been able to find the so-called deep bronchial veins, as *venæ comites* of the arteries. The only veins he has found have been one or two small ones, usually one, at the root of each lung, which on being injected were found to terminate in the structures about the root of the lung, and not to accompany the arteries within the lung. From a careful injection and repeated examination of a large number of specimens, both of man and the lower animals, the author draws the following conclusion of the distribution and termination of the bronchial vessels. The bronchial arteries are distributed to the bronchi, bronchial glands, bronchial tubes, &c., both to their mucous membrane and deeper parts, the bloodvessels, and areolar tissue of the lungs; and their branches terminate—1st, those about the root of the lungs in the bronchial veins; 2ndly, those within the lungs in the pulmonary veins. The bronchial arteries do not establish any communication with the pulmonary arteries.

The author concluded by alluding to the views of previous observers.

## Reviews and Notices of Books.

*Observations and Notes on the arteries of the Limbs.*  
By THOMAS WILLIAM NUNN, F.R.O.S., Demonstrator of Anatomy and Lecturer on Pathology at the Middlesex Hospital. 8vo, pp. 27. London: Churchill, 1858.

The difficulty of retaining in the memory a mass of isolated and unconnected facts, which are not harmonized and attached by any visible prevailing law, is an obstacle which is constantly present to the student of the arterial system of man. The distribution of arteries is so admirably complex and minute, that the student finds his mind greatly taxed in acquiring a full idea of, and retaining the power to describe, the course and termination of the vessel, even in cases of regular distribution. When to this is added the new labor of re-collecting and describing so-called irregularities of distribution, more than ordinary faculties and more than common application must be brought to the task.

Mr. Thomas Nunn has made a philosophic study of the arterial system, with the view of showing, from the analysis of facts already as-

certained, that the arteries of limbs admit of classification, based on essential differences ; that their distribution is homologous, or in accordance with a general plan ; and that the so-called irregularities or varieties of distribution have a definite relation to this general plan.

The author divides the arteries roughly into three primary classes and a composite class. One class, comprising the trunks distributed to the segments in which they are found, which in fact pertain to the segments—Segmental ; another, comprising trunks transmissive to distal segments—Transsegmental ; a third class—Anastomotic ; and a fourth, "multifarious in function, possessing in a greater or less degree the characteristics of all"—the Composite Class. It is in the latter denomination that the weakness of this classification resides. Assorted in accordance with Mr. Nunn's views, the arteries of the lower limb will fall into the following order :

" Arteries of the segmental class—

Internal iliac.  
Deep femoral.  
Peroneal.  
External Plantar.

Arteries of the transsegmental class—

External iliac, with the common femoral.  
Superficial femoral, with the popliteal.  
Posterior tibial.  
Internal plantar (abortive).

Arteries of the anastomotic class—certain branches of—

Ilio-lumbar.  
Gluteal.  
Sciatic.  
Obturator.

Deep epigastric.

Deep circumflex ilii.

Deep femoral.

Anastomotic of superficial femoral.

Popliteal—i. e., the plexus about the Knee-joint.

Recurrent of { Anterior tibial.  
Posterior tibial.

Malleolar of { Anterior tibial.  
Posterior tibial and terminal of peroneal.

Artery of the composite class—

Anterior tibial."

And the arteries of the upper extremities will stand thus :—

" Arteries of the segment class—

Thyroid axis.  
Thoracic axis, or acromial thoracic.  
Subscapular.  
Posterior circumflex.  
Superior and inferior profundæ.  
Interosseous trunk.  
Palmar arches.

Arteries of the transsegmental class—

Second and third portions of the subclavian.

Part of axillary below the thoracic axis.  
Brachial below the origin of inferior profunda.

Radial.

Ulnar proper—i. e., after the origin of the interosseous trunk.

Superficial volar (abortive).

Arteries of the anastomotic class—

Internal mammary,

Branches of the transverse cervical and transverse humeral.

Branches of the thoracic axis.

" alar thoracic. ;

" long thoracic.

The superior thoracic.

Plexus formed about the elbow by branches of the superior and inferior profunda, anastomotic, and recurrents of the radial, ulnar, and interosseous.

The terminal branches of the anterior interosseous.

The carpal plexus."

The recapitulation of Mr. Nunn's views presents them thus :—The main trunk divides into an artery for transmission to the distal segment, and another for the nutrition and warming of the paroximal segment. The transmissive artery is suited to satisfy the hydraulic condition for the rapid passage of the blood through it, thereby preserving the blood's heat. The nutrient artery is arranged so as to delay the blood, and deliver it with diminished velocity to the capillary system, and to allow it to yield part of its heat to the tissues of the segment. The communicating vessels serve to maintain a continuous supply—a uniform result under varying conditions. Mr. Nunn examines rapidly some of the more remarkable varieties of distribution, and shows that they can all be classified according to this arrangement, and rarely admit of any departure or declension from this type.]

This is but an outline of a theory which the author has himself but sketched in outline. It requires patient elaboration and continued study for its worthy completion. Meanwhile, Mr. Nunn deserves the thanks of the anatomist and the praise of the critic for the ingenuity and skill with which he has conducted this interesting investigation, and elucidated the bases for a system, and for having produced a monograph of unusual worth in a difficult department of anatomical science.

*On the State of Lunacy and the Legal Provision for the Insane ; with Observations on the Constructions and Organization of Asylums.* By JOHN T. ARLIDGE, M.B., A. B. (Lond.) formerly Medical Superintendent of St. Luke's Hospital, &c. pp. 213. London: John Churchill.

As one of the topics of the day, all subjects connected with it, coming from a trustworthy source, are worthy of attention. In the last Parliament, up to the period of its dissolution, a

special committee of the House of Commons was engaged in examining into the condition of insane people, and into the laws which bear special reference to their state. The present Government has reappointed the committee, in order to resume the inquiry preparatory to the introduction of new enactments into the statute-book. That these will be of a rather sweeping and important character there can be no doubt, and it behoves all who are interested in the matter to make themselves well acquainted with the nature of the facts which have been elicited before the committee in question, and from which these enactments will deprive their support.

Dr. Arlidge here presents us with an able and useful *résumé* of these facts in connection with the present state of lunacy and of the legal provisions for the insane, with reference to their future wants, which the special inquiries alluded to have elicited, as well as other data derivable from original sources. He divides his matter into eleven chapters. The 1st chapter considers the number of the insane; the 2nd, the increase of insanity; 3d, the state of the present provision for the insane in asylums and its inadequacy; the 4th, the curability of insanity; the 5th, the causes diminishing the curability of insanity and involving the multiplication of chronic lunatics; the 6th, the causes operating within asylums to diminish the curability of insanity; the 7th, the future provision for the insane; the 8th, the registration of lunatics; the 9th, the appointment of district medical officers; the 10th, the Lunacy Commission; the 11th, some principles in the construction of public lunatic asylums. It will thus be seen that a very wide range of inquiry is embraced in the work before us; and though only a limited account could be given of many important topics, yet its perusal will inform the reader pretty accurately and extensively of the gist of the great question which is agitating society,—namely, Why should there not be material changes in respect to the laws governing the insane? The matter discussed in Dr. Arlidge's pages will show, on the one hand, that the book is not to be reckoned as a medical treatise, but "as one addressed to all who are interested either in the legislation for lunatics or in their well-being and treatment; and on the other, make good, it is trusted, the assertion that it occupies an untrodden field in the literature of insanity, and that its matter is good, even should its manner be thought not so."—p. viii.

As we are gratified in praising both matter and manner, we strongly recommend Dr. Arlidge's essay accordingly.

*On the Operation for Strangulated Hernia.* By J. H. James, F.R.C.S., Consulting Surgeon to, and late Senior Surgeon of, the Devon and Exeter Hospital. 8vo. London: Churchill.

The author of this excellent little book offers as his apology for appearing before the public

the fact that his remarks are purely practical. They are the result of several years' experience and careful observation. Mr. James does not profess to write a treatise on hernia, but, as he says "the object is as briefly as possible to give the result of my own experience, either as confirmatory of some, or as opposed to other, points of practice which may be now more or less in esteem; giving reasons for my opinions when they differ from those of others, and offering in some instances views which I believe to be new."

Mr. James arranges his cases in three tables (those used by Mr. South): the first containing all the recoveries; the second, the fatal cases in private practice; the third, those which occurred in the hospital. The advantage gained by this plan is evident.

After a few practical remarks concerning the mortality of hernia in reference to age, sex, &c., Mr. James concludes that, as a general rule, the danger seems to be in an *inverse* ratio as respects the lapse of time. We think the author intended to have said, in *direct* ratio. This is one of the mistakes incurred by using language extraneous to medicine. The chief fault to be found with this otherwise valuable addition to its special department of surgery, is the ambiguity of some of its phraseology.

Mr. James mentions an additional source of disagnosis of inguinal hernia in the female—one which we do not remember to have seen described before:

"If the hernia be true inguinal, it must of course come through the inner ring and take the usual course into the groin and labium; but in such cases as these the cause of obscurity is *that the tumor mounts nearly to the spine of the ilium.*

The author then passes in review the various methods for relieving strangulated hernia—the warm bath, chloroform, O'Beirn's long tube, traction from within, &c. He places little or no faith in topical remedies. The operation itself is then described with great minuteness, from the appearance of the surface of the scrotum to the description of the fluid contained within the sac. From the external appearance of the scrotum Mr. James draws certain inferences, and from these appearances predicates the state of the investments beneath. These and other remarks upon the pathology of the contents are excellent. The second stage (the first is the division of the investments), or division of the stricture, then receives considerable attention. His remarks apply principally to femoral hernia. In the twenty cases upon which he operated, he found the stricture to correspond with the edge of Gimbernat's ligament. He objects, and we think very correctly, to the use of a director in dividing the stricture; suggesting that, as there is intestine above as well as below the stricture, and that generally much *distended with flatus*, it will be exposed to mis-

chief from not being sufficiently guarded against by the director and knife as commonly used. Mr. James divides the stricture in this way:—

"Having insinuated the very point of my finger, I pass a narrow, strong, probe-pointed bistoury, guarded very nearly to the end, taking care that its edge is sharp. Passing this with its flat side, as soon as I have got its extremity into the edge of the stricture I turn it, press its back into the pulp of the my finger, press the point of that, so armed, against the edge of the stricture, carefully avoiding any sawing motion, but cut as it were with the finger itself."

We know of no better method than this to divide the stricture, and have long been persuaded that in relieving a hernia by operation the forefinger is the best possible director we can have. As to the extent to which the stricture is to be divided, Mr. James recommends that, if necessary, we should not be afraid of making too large an incision,

Mr. James believes that there is active constriction by the ring. He says:—

"It is said the ring itself is not muscular, therefore it cannot contract; but do not parts contract which are not muscular? A name often blinds us to facts. We have been long accustomed to connect contractile power with muscular structure: but let us take another case of strangulation—that of the glans penis in paraphimosis; the stricture here is undoubtedly caused by common integuments. (I may mention two collateral but more doubtful arguments in favor of the opinion that the constriction is active: first, the great difference between the feel of the edge in the dead subject and in hernia; and, secondly, the great difference in the degree of constriction.) If it be said that it is, both in this and in hernia, merely a cord bound round, and that the effects are owing to the engorgement of the glands, the answer is, that empty the glans as you will, either by cold or pressure, it will still be found, in most cases, that you cannot reduce it: but if the patient is rendered faint, it can be returned, just as in hernia: or, that failing, the stricture must be divided, as in that malady. What applies to the one case, I apprehend, may fairly be applied to the other; and faintness serves both in hernia and paraphimosis."

We perfectly agree with the author in these opinions, so well expressed; and although there are many very high authorities who have contended that no constriction can take place from contraction of the ring, we do not see how such remedies as opium, chloroform, tobacco, &c., can operate, unless there is some spasmodic action to be overcome. In cases of tapping either abdomen or hydrocele, the resistance made to the withdrawal of the canula by the clipping of the skin must be familiar to every surgeon. Mr. James, justly, does not recommend the use of purgatives, and says, when the action of the in-

testine is antiperistaltic, opium by the mouth will often reverse it; still more when given as an enema; and not only in strangulated hernia, but in ileus, and other inflammatory conditions of the bowel.

Mr. James passes in review the causes of death. In the majority of cases it is peritonitis, sometimes combined with enteritis, and he makes distinctions between the peritonitis supervening upon hernia, and ordinary idiopathic peritonitis.

After a systematic arrangement of all his cases in tables similar to those adopted by Mr. South, the author compares the method of operating by opening the sac with that proposed by Petit and others; and gives reasons for supposing that the most strenuous advocates of Petit's operation have scarcely taken a complete and unbiassed view of the principles on which the success of either method may depend.

In a concluding summary, Mr. James gave a brief capitulation of the contents of his book, and draws certain deductions of a very interesting and practical nature.

We can confidently recommend this little work to those persons who wish to be *au courant* with the best principles and practice of their profession.

*The treatment of Obstinate Ulcers and Cutaneous Eruptions on the Leg without Confinement.* By HENRY T. CHAPMAN, F.R.C.S., &c. &c. Third Edition. pp. 161. London: Churchill.

In announcing the third edition of Mr. Chapman's useful little essay, we may endorse the statement of the author, that he has

"Endeavored to render it as complete an exhibition as possible of the practice advocated, without increasing its bulk. Whatever additional matter has been introduced is concisely woven with the former text; and where new cases are admitted, they merely occupy the place of others which have been withdrawn to make room for them. . . . In the present edition is incorporated a series of papers on the local treatment of ulcers. . . . A section has also been added on the management of erythematous, eczematous, and other cutaneous eruptions upon the lower extremity."

*The Pathology of Tuberculous Bone.* By CORNELIUS BLACK, M.D. Lond., &c. &c. pp. 40. Edinburgh; Sutherland and Knox.

This tract contains a considerable amount of pathologic information in a small compass. We are entirely opposed, however, to the use of such a phrase as that of "the stage of germination," as applied to the progressive metamorphosis of tuberculous matter. We feel also inclined to demur to the infallibility of certain cases adduced as illustrative of a somewhat

obscure morbid state, where the tissues have not come under either the scalpel or the microscope of the pathological inquirer.

*An inquiry into the Curability of Consumption, its Prevention, and the Progress of Improvement in the Treatment.* By JAMES TURNBULL, M.D., Physician to the Liverpool Royal Infirmary. Third Edition. pp. 195. London: Churchill.

Nine years have passed since the appearance of the second edition of Dr. Turnbull's treatise. A third and improved issue is now before us. As far as the main points of the argument here discussed are concerned, the profession generally have been latterly more inclined to agree with Dr. Turnbull's hopeful views than some might have expected. Four more cases of recovery have been added to the fifteen already published, and the present edition has been so well revised and extended as almost to constitute it a new publication.

"It will also be found that the preventive treatment has been examined in a new chapter, and that much additional matter has been added in regard to the varieties of consumption and its relation to other diseases. . . . The chapter on Treatment has been much extended."—*Preface*.

The following *résumé* merits quotation :—

"General observation of tubercular disease of the lungs, as well as the results in some of the previous cases, enable me to express with confidence the opinion that perfect recovery in the early stage may not unfrequently be permanent; that it may likewise be so in those advancing into the second stage, when the extent of disease is limited; but that in those in the third stage, where one or more cavities exist, perfect recovery is so rare that it can be permanent only in exceptional cases. It is, however, satisfactory to know that, though the ultimate result in these cases must be very generally unfavorable, the disease may often be suspended, and a fair amount of health enjoyed by the patient for an indefinite period of years."—p. 126.

Our readers are well aware that another upholder of the "curability" of phthisis is Dr. Hughes Bennett, of Edinburgh. Dr. Turnbull, as well as the latter, mainly trusts in the curative influences of oleaginous agents, and, *par excellence* in cod-liver oil. But the two pathologists are at variance upon an important point in pathology, though in agreement as regards the power of therapeutics. Dr. Bennett asserts that in phthisis there is an excess of acidity in the alimentary canal, which renders the albuminous constituents of the food easily soluble, whilst the alkaline secretions of the saliva and of the pancreatic juice are more than neutralized, and rendered incapable either of transforming the carbonaceous constituents of vegetable food

into oil, or of so preparing fatty matters introduced into the system as will render them easily assimilable. To improve this faulty nutrition, there is nothing like cod-liver oil. Now, says Dr. Turnbull,—

"In consumption, I have seldom, however, observed an excess of acid; and I believed that Dr. Hughes Bennett is in error when he asserts, in order to support his views of the nature of the disease, that the peculiarity of phthisis is, that an excess of acidity exists in the alimentary canal. We have not only no proof of such being generally or even frequently the case, but we have also reason, from the very beneficial effects often produced by the organic as well as the mineral acids, to believe that there may be deficiency of the natural acid condition of the gastric juice."—p. 155.

Accordingly, a favorite remedy of the author is the nitro-hydrochloric acid in conjunction with the oil. The phosphoric and lactic acids have been recently employed by him, and it is believed with advantage. The important question of the treatment of pulmonary tuberculosis is discussed by Dr. Turnbull in so able a way as to entitle his remarks to fitting companionship with the admirable commentary of Dr. Hughes Bennett, that being one of the most instructive lessons in his well-known "Clinical Lectures on the Principles and Practice of Medicine."

*A Catalogue of Achromatic Microscopes, and other Optical, Philosophical, and Mathematical Instruments.* By J. AMADIO, Optician to the Admiralty. pp. 56. London: Adlard.

A small and unpretending compendium of much interesting and valuable information to the junior student of micrology. In it will be found reference to numerous prepared objects more particularly interesting to the student of medicine, and which there has not been hitherto any source or storehouse to supply. Beetles' wings and moths' scales, flies' feet and butterflies' antennæ, were all very interesting in their way, but the professional microscopist wanted something more. Mr. Amadio can now supply him with transverse sections of different kinds of hair, of bone, and of teeth; with the coloring matter in the skin of different creatures; and with injected and other anatomical preparations as the lung, intestine, kidney, skin, liver, bladder, adipose tissue, Peyer's glands, &c., whether adult or foetal, human and comparative. We find, also, such miscellaneous preparations as murexide, cystic oxide, demodex folliculorum, and human pediculi, amongst Mr. Amadio's useful collection. Much credit as there is due to the author of this catalogue of microscopic preparations for having gone out of the common and popular path, we think he might still proceed further with advantage, in replying to the wants of medical men, who, in buying prepared

objects, desire such as have relation to the healthy and morbid anatomy of the human frame. Why is the field of urinary deposits almost entirely set aside? Is the permanent preservation of most of the sediments so difficult as to forbid the attempt, regarded as a mercantile speculation? Mr. Amadio's ingenuity might be turned with advantage to the preparation of these and analogous objects.

*Town Swamps and Social Bridges.* By GEORGE GODWIN, F.R.S. 8vo. p.p. 102. London: Routledge and Co.

The work is written in an able spirit. It is by the editor of *The Builder*, whose professional pursuits would naturally render him conversant with all the evils, architectural and non-sanitary, inherent in an over-grown, metropolis like ours, and capable of suggesting remedies suitable to remove them. Each page is so full of valuable matter, that the reviewer labors under an *embarras des richesses*, and it is apparently impossible to select a passage more worthy of transcription than any of the rest. The treatise, small as is its size, is a thorough exposition of the world of London as regards the homes of the least favored classes of the population. It is ornamented, as well as illustrated, by numerous well-executed engravings; and is interspersed with numerous quotations, both poetic and in prose, which evince extensive reading, and are animated by the highest philanthropy. The book ought to be at the hand of every well-wisher of his species, and especially should it be in the possession of those whose means enable them to help to erect the "social bridges" that ride over the "town swamps." We heartily wish it an extended circulation.

*Lectures on Pathological Anatomy, delivered at Guy's Hospital during the Summer Sessions of 1857, and 1858.* By SAMUEL WILKS, M.D., Lond., F.R.C.P., Assistant-Physician to Guy's Hospital, Lecturer on Pathology, and Curator of the Museum, &c. pp. 472. London: Longmans.

These lectures were delivered to the students of Guy's Hospital, and are published at their request, and in the exact form in which they were delivered, and have, therefore, the disadvantage of referring constantly to certain specimens in illustration, to which the general reader has no opportunity of access. The reader should be provided with the catalogue of Guy's Hospital Museum in order fully to appreciate the labors of Dr. Wilks; and as only the first part of that work has yet appeared, we fear that some time must elapse before its completion. Nevertheless, the lectures of Dr. Wilks will prove a useful book of reference to many who, engaged in practice, may want occasionally to refresh their memories on the occasion of some important post-mortem examination.

Taking the various tissues and organs *seriatim*, the author gives a short and generally lucid account of the different morbid conditions in which they may be found, supplying illustrations, not only from the museum, but from patients whom his hearers had had the opportunity of watching in the wards of the hospital. From the nature of things, however, a vast number of subjects are treated of in a comparatively small space, and hence we opine it must have been a hard matter to follow the lecturer throughout the courses, for even with the pages before us, it is sometimes difficult to retain the meaning of such highly concentrated paragraphs.

In pathological science, Dr. Wilks is, as one would expect, quite *au courant* with the most modern authorities; but we cannot but think that he errs in laying down as law what is considered by most authors as still *sub judice*; for example, at p. 329, "syphilitic fibroid deposit" in the liver is mentioned as of frequent occurrence, and of unquestioned character. Now most of those who have paid attention to the subject regard the proofs of this statement of Dr. Wilks as anything but convincing; and, in fact, of the four cases published in the last volume of the Pathological Society's "Transactions" in support of his views, only *one* is known to have had syphilis.

The last forty pages contain some valuable hints on the "Association of Morbid Conditions" and on the pathology of some diseases which could not be considered under the head of any particular organ—e. g., pyæmia, typhus, &c. The usefulness of the work would be very materially increased by the addition of an index to any future edition.

*Contributions to the Surgery of Diseased Joints, with especial reference to the Operation of Excision.* No. I. The Knee. By P. C. PRICE, Surgeon to the Great Northern Hospital, &c. pp. 48. London: Churchill.

When the operation of excision of the knee-joint was revived in 1850 by Mr. Fergusson at King's College Hospital, and the death of the patient speedily ensued, it was thought that an unwarrantable proceeding had been adopted, and there were not wanting some who accused that surgeon of rashness. This unfavorable opinion was not diminished, but, on the contrary, was somewhat enhanced, by the results of the first few succeeding cases, one-half of which terminated badly. By degrees, however, more cheering results were obtained; some excellent surgeons, both in London and the provinces, followed in Mr. Fergusson's footsteps, and at length excision of the knee-joint obtained such a character that one had to fear lest the enthusiasm of some might tend to bring it again under the cloud from which it had just emerged.

The present little work will go far to prevent this; for Mr. Price, having had considerable personal experience of this particular operation,

has made some judicious observations regarding the cases for which this proceeding is most suitable, and the means which are best adapted for bringing about a favorable termination.

It has hitherto been too much the fashion to furnish the profession with only the *favorable* results following novel or important operations of surgery. Thus it is impossible to know what has been the mortality after ovariectomy or lithotomy, and until now we had no exact information regarding the success of excision of the knee beyond what was furnished in Mr. Butcher's valuable essay. Mr. Price has been fortunate enough to obtain what seem to be very reliable details, and from these it appears that the operation has been adopted on 160 occasions since its revival by Mr. Fergusson, and that of this number, 32, or 20 per cent., have proved fatal. Now, if it be true that only one in five patients submitted to this severe operation has died, and that the majority of the remainder have recovered with an useful limb, it would seem that surgeons cannot often be warranted in amputating limbs for disease of the articular surfaces; for certainly the proportion of deaths after amputation is as great, if not greater than this; and, moreover, no mechanical appliance can prove a substitute for a limb only slightly shortened and well knit at the knee.

Mr. Price has done good service in publishing these observations, the careful perusal of which we can recommend to all practitioners interested in the important subject discussed.

*Journal de la Physiologie de l'Homme et des Animaux.*

Publié sous la direction du Docteur E. BROWN-SEQUARD. Tome Deuxieme. No. VI. Paris: Victor Masson.

This number contains a series of interesting papers, which fully maintain the distinguished character for foreign research which the journal has from the first obtained. M. Guyon furnishes elaborate studies of the cavity of the uterus in a state of vacuity. M. Paul Broca continues a memoir on the hybrid character of the mongrels of the hare and rabbit, in which he enters into a complete review of the doctrines of engenesial and paragenesial hybridity as affecting races of animals and of men—an investigation of the highest interest to physiologists, as to the ethnologist and the student of natural history. Dr. Brown-Séguard recites experimental researches demonstrating that while the old doctrine, due to Fontana, Herbert, Mayo, and others, of the reflex action of light upon the iris is, in the main, exact in regard to man and mammals, it is inexact in regard to fishes and batrachians (as also to cephalopods amongst invertebrata); in fact, amongst the latter animals, light acts upon the iris not only through the intervention of the retina and encephalon, but also in a direct manner on the tissue itself of the membrane of the iris. Papers by Davaine,

Cl. Bernard, and Charles Rouget, with a translation of a valuable paper by Bruecke on a curious property of diabetic urine, complete this number, which is full of interesting and original matter by thoughtful and progressive workers.

THE PERIODICALS FOR THE QUARTER.

*The British and Foreign Medico-Chirurgical Review* opens with a rather elaborate critical examination of the entire series of the researches of M. Brown-Séguard into the "Physiology and Pathology of the Nervous System." Valuable and trustworthy as the analysis is, it would have been infinitely more valuable if the author of it had given at the end a *résumé* of his conclusions, instead of leaving them to be collected *en passant* from a discussion, all the minute details of which it is rather difficult to retain in the mind to the conclusion of the paper. The writer observes, "Of all the results of M. Brown-Séguard's experimental researches on the nervous system, the most original and satisfactory appear to us to be those which appear conclusively to establish the decussation of the conductors of of sensory impressions in the spinal cord itself at a very short distance from their entrance into it." (p. 15.) The articles on "The Influence of Oxford upon Medicine" and on "John Hunter" are well worthy of perusal. This latter essay stands in great contrast with that on M. Brown-Séguard in respect to its possession of a clear and succinct *résumé* of what it has undertaken and assumes it has performed. Amongst the original communications is the conclusion of Dr. Jago's elaborate memoir, "On Entoptics." To Dr. Scott's paper, "On the Effects of Rupture of the Internal and Middle Coats of Arteries," we may also direct attention.

The third number of Volume III. of the *North American Medico-Chirurgical Review* continues the important inquiry of Dr. Storer, of Boston, into "Criminal Abortion," and contains also a report by Dr. Mason, of Philadelphia, "On Practical Obstetrics for the year 1858." Dr. S. Packard reviews "The Present State of Microscopical Science," and Drs. Bigelow and Forbes are weighed in the balance, and found wanting. "There is reason to believe," we are told, "that neither the 'Rational Expositions' of Dr. Bigelow nor the kindred work of Sir John Forbes, 'Nature and Art in the cure of Disease,' can stand the scrutiny of medical logic on the very point which the authors may be supposed to regard in their reformatory labours with the most complacency."

The *Journal of Psychological Medicine*, in its "Quarterly Report," treats us to some of the magical science of M. Houdin and the Aissoua. The first volume of Sir William Hamilton's Lectures is analyzed; "Pauper Lunacy" is next discussed, and then we have the continuation of a valuable paper (we previously noticed in a leading article), entitled "Principles of Early



**Mental Education.**" The great epic poet, Dante, forms the subject for an interesting "Psychological Study."

The *Journal of Mental Science* reviews the Commissioners' Report on Lunacy in Scotland; Excerpts from the Evidence on Lunatics, given before the House of Commons; and the Supplement to the Twelfth Report of the Commissioners to the Lord Chancellor. Dr. Tuke contributes the first instalment of a paper upon "General Paralysis," and Mr. Tyerman continues his "Commentaries upon Insanity."

The *Dublin Quarterly Journal of Medical Science* contains some good papers. We would signalize Mr. Haughton's communication, "On the Healthy Urine of Man;" Dr. Osborne's "On Involuntary Actions of Voluntary Muscles;" Dr. Heslop's "On the Cerebro-Spinal Symptomatology of Worms," and Dr. Macdonnell's "On the Physiology of Diabetic Sugar." There is a somewhat lengthy review of the "Extent, Causes, and Effects of Prostitution;" but we cannot say that it is as practical in purpose as it is morally good in intent. Like most lucubrations upon the subject of the "Social Evil," it ignores one of the most important factors of the equation that it places before the public. Sir Benjamin Brodie's views in relation to the matter *sub judice*, have always seemed to us the most marked by common sense.

### Foreign Department.

#### ARSENICAL POISONING; GOOD EFFECTS OF THE CARBONATE OF IRON (SESQUIOXYDE.)

*L'Union Medicale* of the 26th ult. gives an extract from the Italian journal, *Il Filitro Sabezio*, in which paper M. Trapani has published a case of poisoning with arsenic. After emetics had been freely used upon the four patients affected, who all presented the usual symptoms of arsenical poisoning, the indication was to give the hydrated peroxyde of iron, the efficacy of which in such cases is universally acknowledged. But it is not always easy to procure it, hence it becomes important to ascertain whether other martial salts will act, to a certain extent, in the same manner. The carbonate of iron (or rather sesquioxide, as the carbonate when kept any time, soon passes into this state) was here given, and with the best results.

#### DIPHTHERIA TREATED BY IRRIGATIONS WITH A SOLUTION OF COMMON SALT.

M. Roche mentions, in *L'Union Medicale* of July 26th, that by this treatment he saved his patients in six cases of diphtheria. The false membranes were first freely cauterized with the lunar caustic, and injections then made every hour against the fauces with a solution of common salt, the strength of the solution being such as not to create nausea. Chloride of potash was

also given internally; and tincture of iodine as a topical application, was used in half the cases: but M. Roche considers that the irrigations with the solution of common salt were the chief agents in the cure. One little girl was not cauterized at all. The author likewise holds that solutions of alum, chloride of potash, iodine of potassium, chloride of lime, &c., would perhaps be as efficacious.

#### PARALYSIS OF THE PHARYNX AND GENERAL PARALYSIS AFTER DIPHTHERIA.

M. Maingault lately read before the Medical Society of the Hospitals of Paris an important paper on the above mentioned affections. We find by the excellent report of M. Henri Roger, physician to the Children's Hospital, that M. Maingault, by collecting the cases published and adding his own, has been able to ground his essay upon fifty cases of pharyngeal and general paralysis. These affections generally occur during convalescence of diphtheria, and are looked upon as unconnected with any lesion of the nervous centres. Recovery is the rule, and is promoted by steel, bark, sulphurous and saline baths, cold douches and stimulating frictions. In a few cases, special excitants of the nervous system, such as strychnine and electricity, have been found extremely useful.

#### MEDICATED SUBCUTANEOUS INJECTIONS.

Dr. Alex. Wood's method of injecting narcotic solutions into the cellular tissue is finding favor in France. M. Béhier, an hospital physician of Paris, has made numerous experiments respecting this mode of removing pain, and has communicated the results to the Academy of Medicine.

The fluid injected in these experiments was a solution of sulphate of atropine, six grains to an ounce of water, which gives a proportion of the fiftieth part of a grain to every five drops of the solution. Fifty-three patients, affected with various kinds of neuralgia, were injected close to the seat of pain with this solution; twenty-two others with a sulphate of strychnine, in the same proportions as had been observed for the sulphate of atropine. A solution of muriate of morphia was also injected in a case of slight lead colic. Pain was always relieved, and cures were effected in all the cases where the injections were sufficiently repeated—namely, in thirty-one cases out of fifty-three. Signs of belladonna poisoning occurred in all, which was combated by opium.

M. Behier has tried to remove pain by injections into the cellular tissue at a distance from the seat of the uneasiness, so as to put the assertions of Mr. C. Hunter to the test; but always unsuccessfully. The same physician thinks that injections of medicated fluids into the cellular tissue afford very great advantages in cases of neuralgia and paralysis; and that these injec-

tions will yield the best results in other affections, where it is important that the medicinal substances should act upon the organism at large.

#### THE PULP OF RAW MEAT IN INFANTILE DIARRHŒA.

The *Bulletin de Therapeutique* of Paris lately mentioned this remedy, which was originally advocated by M. Pensa, in the *Gazette Medica Italiana*. It is efficacious principally in the diarrhœa which affects young children and those prematurely weaned. Raw mutton or beef is to be pounded, and then strained. The red fluid thus obtained is to be incorporated with jam or sugar, and administered in the shape of small bolusses. Two drachms and a half may be given the first day, and the dose may gradually be increased to thirteen ounces per diem (?). Every other kind of food is to be set aside, but the doses of the pulp should be diminished as the diarrhœa abates. When the looseness has quite disappeared, the meat may be replaced by beef-tea, boiled eggs, &c.

#### STRANGULATED HERNIA REDUCED BY KNEADING THE ABDOMEN.

We mentioned last week a case of strangulated hernia reduced by large doses of infusion of coffee. This case has induced Dr. Laforge, surgeon to the 40th Regiment of the line (France), to publish, in the *Gazette des Hôpitaux* of the 19th instant, a case of strangulated hernia, which he succeeded in reducing by placing the patient almost vertically, head downwards, and then kneading the abdomen. Dr. Laforge appends the following sensible remarks:—

"It is logically clear that the strangulation would offer but little resistance if the operator could seize one of the ends of the strangulated knuckle, and draw it towards him in a direction contrary to the force which pushes the viscera out of the abdomen. When the patient is placed on a very inclined plane, pelvis downwards, according to the method of the ancients, or some of the surgeons of the last century, the intestines exert, by their own weight, a traction from above downwards. Now, by a regular and gradual kneading, it is possible to bring the intestinal mass to the umbilicus, and to push up the diaphragm and the abdominal viscera towards the chest, thus giving much energy to this power of traction, which may draw within the abdomen the viscera which had protruded. I consider this manipulation more rational and surgical than the taxis, the latter being certainly a very inferior means of reduction; as, besides being exerted on congested and painful tissues, it is rarely efficacious, causes much valuable time to be lost, and may increase the resistance of the ring by pushing the strangulated mass against it. Such substances as excite an energetic peristaltic action, or great efforts at vomiting, act, according to my view, in a mechanical

way; in fact, they bring about the internal traction which I obtained by kneading."

To these remarks we would add, that belladonna and acetate of lead, which have been found useful in these cases, probably act in the same way. It should, however, be carefully noted, that the relaxing effects of chloroform inhalations were not tried in the cases of M. Laforge and others.

#### OCCASIONAL DANGER OF THE OPHTHALMOSCOPE.

M. Desmarres states, in the *Gazette des Hôpitaux* of the 9th ultimo, that severe facial neuralgia was excited in a woman sixty-six years of age, by the use of the ophthalmoscope. She was affected with complete glaucoma of the right eye, and applied to the dispensary for facial neuralgia of the same side, from which she had been suffering for the last eleven years. The left eye seemed sound; but, on being viewed with the ophthalmoscope, it was found affected with the optical form of glaucoma described by Heger. Several medical men successively examined the patient with much gentleness, and she complained neither of fatigue nor of being dazzled. But the eye became painful towards evening, and a neuralgic pain, of the same kind as had long existed on the right side, occurred on the left. The pain became intolerable on the two following days; and, when the patient called again at the dispensary, all the symptoms of acute glaucoma were observed on the left side. M. Desmarres considers that an occasional cause of such an attack may be an ophthalmoscopic examination.

### Editorial.

#### THE MARCH OF MIND.

Amidst all the marchings and counter-marchings which have been going on in modern times, the most forced and rapid movement has assuredly been that which has been quaintly termed the "march of intellect." But, like other forced marches, it has been attended by some heavy drawbacks; for all forced marches, it is well known, will, if frequently repeated, wear out the finest troops that were ever urged to them. And so has it been with modern intellectual advancement, the rapid progress of which has been attended with those many phases of the "overworked mind," of "wear and tear," nervous exhaustion," premature old age," &c., that start up before us at every step. It has been affirmed, that although the average duration of life appears to be greater now than formerly, there can be no doubt that the power of *vital resistance* has sensibly diminished, and that not only the brain, but other important organs, more readily yield to the influence of disease. It may be true, indeed, that the duration of human life is greater now than it was a century back. If so,

it is mainly due to the correction of some of those terrible anti-hygienic physical influences which environed our ancestors, and cut short their lives. If, together with the improvements which we have gradually made in this respect, we had not—to use a common expression—burnt the candle so much the faster at the other end, a yet greater amount of health and happiness would, we firmly believe, have been our lot. But our mental excitement can not be very easily checked. We have put down the man of muscle from his throne, and elevated the man of thought to his place. It is not in these days the hewer of wood and drawer of water whom we honor; it is the ingenious inventor, the teacher in our broadways, the speculator in our market-place. From the senate to the mechanic's reading-room, all are pervaded by the same aspiring and restless spirit; from the most refined to the most plebeian, from noble to *roturier*, we witness the same effort to work the brain whenever it is possible, in preference to working with hands or feet. And at such a forced march as this, we have, for the last thirty years, been progressing, and at so rapid a rate that at length we have become nearly breathless in our speed—a speed like that to which our bodily locomotion has attained, in which, steam-projected through the air, we are thrown at the rate of fifty miles an hour from place to place. Thus, as Carlyle forcibly tells us, “the race of life has become intense; the runners are treading upon each other's heels; woe be to him that stops to tie his shoestrings.” Even in those walks of human industry in which mere physical strength still continues to bear a high value—as machinery has not yet displaced it—we find that competition, surplus labor, &c., are ever at work, goading on the exhausted bodily powers to work against time, at over hours, or under some such disadvantageous circumstances, as render the labor to be performed little less than a slave-like task of endurance. If there is unceasing competition in art, science, and literature, so is it to be found struggling amongst mere human machinery. Take Dr. James Johnson's familiar illustration—the coal-heaver upon the banks of the Thames, straining daily, like an Atlas, under the loads of “Northumbria's entrails,” which he bears upon his back. Through his stomach and veins pass some three or four gallons of porter six days of the week. Compare him with the barrister, straining his brain during twelve hours of the day from the beginning to the end of term time, with scarcely any exercise of his muscles or physical strength. Nothing can be more striking than the contrast between these two classes of operatives as far as *complexion* is concerned. But wait awhile; let us strip them of their habiliments; wash off the charcoal and hair-powder, and examine their constitutions. We shall find that the “wear and tear” of body and of mind have forwarded each of them a step or two in advance along the pathway of human existence.

But it is clear that it is not the *amount* in itself either of mental or bodily exertion that in these modern days proves so deleterious. As the late Dr. Arnold, of Rugby, said, “it is not work that injures a man; it is vexation that does it.” Our modern labor is attended with a fearful amount and intensity of *emotional excitement*. Restless thought, hazardous speculations, and momentous undertakings, bring with them sleepless hours of anxiety. These latter it is which have been the cause of that question being lately raised, and which is still *sub-judice*—viz., insanity: does it or does it not increase in these latter times? The following observations from the evidence given by the Earl of Shaftesbury (Chairman of the Commissioners of Lunacy) before the Select Committee of the House of Commons will well illustrate some of our preceding remarks:—

“I dare say many will differ from me, that if there is not an actual increase of insanity, there is developed a very considerable tendency towards it; and I think it arises from the exaggerated state of society—the new state of society in another aspect upon which we are entering. It is impossible not to see the effect that is produced by the immense speculation that takes place amongst all the various small-trading classes and people keeping costermongers' shops, and everyone who has £5 that he can invest; they are carrying it on to a very great extent, and the number of disappointments and the great ruin that have come upon so many people, and the horrible distress to which they have been subjected, have had a very considerable effect upon their minds; and society is living in a state of perpetual agitation. It does not signify whether it be political life or literary life. Everyone must see, now, that life is infinitely more active and stirring than it used to be; the very power of locomotion keeps persons in a state of great nervous excitement, and it is worthy of attention to what an extent this excitement prevails. I have ascertained that many persons who have been in the habit of travelling by railway have been obliged to give it up, in consequence of the effect upon the nervous system. I was speaking to one of our commissioners the other day, who had just come off a journey, and he said that his whole nerves were in a state of simmer; and he was not able, without some period of rest, to enter upon business. I think all these things indicate a very strong tendency to nervous excitement, and in what it may issue I do not know; but I am quite sure, with regard to persons in that class of life entering into trade, and living in, and very constantly under, the influence of this stir and agitation, that the nervous systems of these persons are in a much more irritable state than they were twenty years ago. . . . The predominant cause amongst the richer classes of lunatics appears to be a disordered imagination, the pursuit of money, disappointed ambition, or

great losses in trade, and sometimes you will find it from over-work."

The prolonged and reflective mental labors of the philosophers and lawyers are far less permanently detrimental to the frame than are the intense and highly nervous efforts of the poets and musicians. The great temporary excitement of the young and passionate phantasiist is followed by a depression and renewed by a reactional emotional pyrexia much more exhausting to the vital powers than is the more equable and continuous exertion of the ratiocinative faculties of the philologist, the man of science and the divine. Of the last ten Chancellors—3. g., from Lord Thurlow downwards—the youngest is Lord Cranworth, who is about seventy years old. The average age of the ten is something higher than seventy-six years. If, for the purpose of comparison, we take a like number of our more distinguished poets from Spenser to Byron, we shall find the average age of them to be fifty-two, every one being more than twenty-four years younger than the last ten Chancellors. Thus is borne out the general opinion, that musicians and poets usually die young, and that philosophers and lawyers do not.\*

In the windows of some of our sporting printshops, we have seen the "Mail Driver" of 1825 represented in contrast with the "Express Driver" of 1855. They are admirably opposed, and form types of the different characters of the respective times, now separated by more than a quarter of a century. The one, a jolly rubicund "John Bull," loaded with capes, top-boots, and "Belcher" handkerchief, and strong enough to bear an ox upon his back, is prepared to go soberly and steadily along the road at about ten miles the hour. There is a look of contented, self-satisfied, though good-humored complacency about him, which seems to say—What possible state of matters can be better than the present?

"He whistles as he goes, light hearted wretch,  
Cold and yet cheerful—messenger of grief,  
Perhaps, to thousands, and of joy to some—  
To him indifferent whether grief or joy."

The other is a pallid, rather meagre and sharp-visaged man, clad in short blue jacket, and devoid of all superfluous clothing or *impedimenta*, but with a restless look that seems to show his active and anxious mind is accustomed to proceed at a rate of progress analogous to that at which he is soon about to guide hundreds through the air, and that, instead of being satisfied with repose, it would for ever "keep moving."

"The grand debate,  
The popular harangue, the tart reply,  
The logic and the wisdom, and the wit  
And the loud laugh—he longs to tell them all,  
And burns to set th' imprison'd wranglers free,  
And give them voice and utterance once again."

This acute, pallid, meagre man, then, who directs the railroad engine while rushing on at its

appalling speed by a slight handle that could be moved by a child, is a type of the strange change which has taken place—the ascendancy of mind over matter. But, as we before observed, this forced march of intellectual civilization has its drawbacks, and yet we still urge it further! "My brain is burning, I can bear life no longer," said the author of the "Old Red Sandstone," and shortly ceased to exist. "Fits!" says Bernard Lintot, in Pope's pasquinade against Dennis, "a man may well have fits and swollen legs who sits writing fourteen hours a day." The battle of life and death is often fought as really in chambers or in an office as it is on the field. If we were to select a model for the artist which should portray in allegory the spirit of our times, it would be some such unfortunate as Kirk White at nocturnal study, with wet towels round his heated head, pale, faint, and trembling lest his sand should run out ere his insatiable appetite for acquisition and desire for praise should come to be gratified, if not appeased.

#### NEW BYE-LAWS OF THE ROYAL COLLEGE OF PHYSICIANS.

The new Bye-laws of the Royal College of Physicians, England, embrace some important changes. A candidate is now eligible to receive a licence to practise as a physician at twenty-five years of age, and any candidate who has already obtained the degree of Doctor or Bachelor in Medicine, at any University in the United Kingdom, after a course of study and an examination satisfactory to the Censors' Board, will be exempt from all parts of the examination, except such as relate to pathology and therapeutics. The College has also rendered an act of tardy justice to its Members; it actually permits them to use the College library and museum, and to attend lectures given at the College; nay more, the Members may enjoy any further privileges which from time to time may be defined by new bye-laws. It seems almost incredible that the Licentiates of a learned body should have been so long excluded from what must appear to every right-minded person their just rights and privileges. The recent bye-laws are another indication of the march of improvement,—of the breaking up, indeed, of those absurd and dangerous distinctions which have never served any useful purpose; but, on the contrary, have given rise to heart-burnings and jealousies—have detracted from the dignity of the institution, and have identified it with the bigoted times in which it was founded. Reform has come late, and has been the result, not of a love of freedom upon the part of those in office, but, in reality, of a necessity for some means to save the College from impending ruin. Had these alterations been effected before the passing of the Medical Act, the College would have been entitled to just commendation; but at the present time they can only be looked upon as a

\* Westminster Review, No. xxvi., July, 1852. Article, "The influence of Local causes on National Character," p. 35.

prudent retreat from a position which had been stormed and carried by the enemy.

The Fellows of the College are now also to be elected without regard to the particular school in which they were educated, and the monopoly which pertained to the graduates of Oxford and Cambridge is broken down. Shades of Armstrong and Clutterbuck, what a change!

The College officials, following in the steps of the Medical Act, have also passed the following bye-law:—

"If any member has obtained admission by fraud, false-statement, or imposition, or been guilty of any great crime or public immorality, or acted in any respect in a dishonorable or unprofessional manner, or violated any bye-law, rule, or regulation of the College, the President and Censors may call the party so offending before the Censors' Board, and having investigated the case, may admonish, or reprimand, or inflict a fine not exceeding £10; or if they deem the case of sufficient importance, may report it to the College, and, thereupon, a majority of two-thirds of the Fellows present may declare that the accused shall forfeit all the rights and privileges which he does or may enjoy, and his name be expunged from the list of Fellows or Members accordingly."

Had this regulation been carried a few years since, how much might the dignity and usefulness of the College have been enhanced! Now the Medical Act renders the most important part of it superfluous and unnecessary.

On the whole, however, it is due to the College authorities to state that they have set a good example to more than one other of the antiquated medical institutions of the kingdom. "It is never too late to mend." Freedom obtained from the fears and jealousies of corporate tyranny is not that which Englishmen should experience; they should be enfranchised by the influence which they bring to bear upon their oppressors by their virtue, their talents, and their acquirements; more especially is this the fact, when the circumstances pertain to a learned and noble profession, filled with men acutely sensitive to unmerited neglect.

#### NEGLECT OF OBSTETRIC EDUCATION.

The medical council will shortly be engaged in that most important department of its functions, which consists in regulating the educational requirements of future candidates for the medical profession. To harmonize the diverse standards of the numerous examining boards will, no doubt, test the constructive and administrative skill of the Council. But one principle it is clearly within their power to enforce, and that is, to exact a full theoretical and practical knowledge in all the leading subjects of Medicine, Surgery, and Obstetrics. It has long been a scandal to the profession, and the source of infinite public mischief, that men have embarked

in the responsible duties of general practice, prepared by education for practice in one or two of these departments only. Through the hitherto existing most absurd regulations, many men possess only the Apothecaries' licence, which implies a fitness to practice Medicine; many more unite to this the diploma of the College of Surgeons, and may be presumed to add a fitness to practice Surgery as well; and until the recent ill-judged institution of a special diploma in Obstetrics by the College of Surgeons, no security was taken for obstetrical competency from the general practitioner, upon whose skill hang the lives of the mothers of England, and the reputation of our profession. The consequences might have been foreseen. If anyone should seek to know what these are, let him read the records of our law and criminal courts. He will find examples of lives lost, of reputations blasted, of worldly prospects destroyed, through ignorance of the fundamental laws of Obstetrics. The truth is familiar to every teacher, that not one student in twenty cares to study any branch of knowledge in which he is not to be examined; and when he finds the examining boards are content with a certificate of attendance on a three months' course of lectures, he is easily led to believe that midwifery is not worthy of occupying much of his time, and that sufficient practical skill will come of itself by a little experience at the bed-side. He therefore goes into practice utterly unprepared to cope with those numerous and terrible dangers which surround the parturient couch, and which demand knowledge as extensive and special, experience as ample, and resources as manifold, as the greatest emergencies of Medicine or Surgery. Through bitter and dear experience, many have learned all this too late. And how many are they who, now enjoying a well-deserved distinction in obstetric practice, might, if they spoke out manfully, tell us a sad history of accidents unforeseen and unguarded against, of irreparable injury done to mothers, perhaps of lives sacrificed, in the early period of their uninstrued career!

Who is to blame for this? It is now futile to inquire. The question is, how is the existing deficiency in medical instruction to be removed? We are strongly of opinion that this is a duty, second to none in importance and in urgency, resting with the medical Council. The Obstetrical Society, whose prosperous commencement is familiar to the profession, has been founded at a most fortunate juncture. Counting as it does amongst its members almost all the leading teachers and practitioners of Obstetrics in the kingdom, it is well qualified to speak with authority upon this subject. Its Council, having carefully weighed the matter, have addressed a memorial to the Medical Council, signed by the Presidents (Sir Chas. Locock and Dr. Rigby) and the Honorary Secretaries. The document ably sums up the arguments in favor of insisting upon an equal consideration of Ob-

stetrics with Medicine and Surgery in any comprehensive scheme of medical education and examination. The insufficiency, and even mischievousness, of the College of Surgeons' midwifery diploma are clearly shown. It is observed that this licence is entirely voluntary; that any Fellow or Member may practice midwifery without having passed any examination in midwifery; and that the licence may be given to persons who are neither Fellows nor Members. This special licence is derogatory to the obstetric practitioner, as tending to revive his supposed inferiority to the practitioner of Medicine and Surgery. Unless Obstetrics be made to form an integral and essential part of our professional examination, that examination must be considered imperfect, and an insufficient security for the public. The Council very properly urge, that the interests of the profession and the welfare of the public demand that the standard of education and examination for those who are engaged in the practice of Midwifery should be as high in this department as that which obtains in Medicine and Surgery. They suggest that the attendance on lectures on midwifery by the student should equal the attendance required on Medicine or Surgery. They express their deliberate conviction that it is quite impossible to teach the principles of Midwifery in a single three months' course of lectures. As regards practical instruction, they suggest that Lying-in Hospitals, the maternity departments of general hospitals, and other institutions, be in future recognised as schools of instruction in Practical Midwifery, and that a special and sufficient attendance upon them, similar to the attendance upon medical or surgical hospitals' practice, should be required from all students. As regards examination for licences, diplomas, and degrees, they further suggest that all candidates should, as in the continental schools, be tested in Midwifery to the same extent as in Medicine and Surgery.

Those who have watched or taken part in the great development and progress of Obstetric science, during the last twenty years, will not need to be reminded of all this. Nor will it be contended that the ordinary courses of lectures on Physiology and General Anatomy sufficiently provide for instruction in the anatomical and physiological basis of Obstetrics. It is certain that no one whose interest in the subject is not quickened by practice in Obstetrics will ever fully appreciate, so as to be able to teach effectually, the anatomy of the female organs of generation. Our knowledge of this department of anatomy is now so extensive, and the applications of our increased knowledge have already made such an intimate alliance with practice, that it has become altogether impossible to present a satisfactory exposition of the actual science and practice of Obstetrics in the three months' course which the College and Hall, in their wisdom or ignorance, assign to the task.

A department which now engages some of the

best intellects in the medical profession—which has been the means of advancing the science of Medicine as a whole, and which is of such paramount importance to the well-being and security of society, must no longer be treated with neglect. The Obstetrical Society deserves well of the profession for the step it has taken in challenging for Obstetrics a claim to equal consideration with Medicine and Surgery as an integral part of the healing art. The Medical Council has here an opportunity, by adopting the recommendations of the Society, of justifying in the eyes of the public the Act of Parliament under which it is constituted, and of earning the applause of the entire body of the profession.

#### WHAT IS A REGISTER?

No human being can predicate with certainty the remote or even immediate effect of any special act which he performs. It could not, for instance, have been *a priori* expected that the late prosecution of Henry Scott at Bow-street would end in bringing about a far more important result than the mere shutting up of the shop of an unqualified practitioner. By the somewhat unexpected decision of Mr. Jardine, however, the interest evoked by the trial has been shifted in its direction, and is now concentrated on the important inquiries,—“Is there, or is there not, a Medical Register?” and “What real protection does the new Medical Act give to the medical profession, and what steps are necessary to be taken to put that protection into force?” All questions such as that of the advantage to be derived from putting an end to the assumptions of the notorious advertiser, Scott, are thrown into the shade for a time by the more important considerations of the existence or non-existence of a valid Medical Register, and the mode in which the Medical Council and the Registrar have attempted to carry out the provisions of the Act.

At the trial of Scott, his assuming the title of a surgeon, and prescribing and furnishing medicine to a patient on the 27th of July last, had been distinctly proved in evidence, and the printed Medical Register published on the 1st of July had been produced to prove that the defendant was not a *registered* practitioner. But the Magistrate shrewdly remarked that no proof was given that Scott had not commenced practice after the 1st of July, neither had proof been given that he had not registered since that date. The case was adjourned for the presence of Dr. Francis Hawkins, the Registrar, and his production of the Register since July 1st. At the second sitting, Mr. Bowen May repeated an argument which he had used on the former occasion,—namely, that the defendant was bound to prove that he had been registered since the date at which the printed copy of the Register was made up. But Mr. Jardine ruled differently. He said, “In a criminal proceed-

ing like this, you cannot cast the *onus probandi* on the defendant." Mr. Roope, the chief clerk to the Medical Council, was then put into the witness-box. The Register since July 1st was called for. It was not forthcoming. The witness stated that there was none! but that applications for registration was made and kept filed at the office, and certificates of registration given accordingly. The Magistrate was somewhat severe and sarcastic in his remarks upon the medical profession and their mode of keeping their records. "Men of business," he said, "who keep a register, keep a document like that printed book (the published Register), but in manuscript; and the very day after printing it they would again have something in manuscript, where the entries would be made from day to day as they occurred." And he added that the Medical Act was "an excellent Act, and well calculated to meet a great evil—that unqualified persons were enabled to practice as medical men. But it has not been properly carried out by the Council. They were not lawyers. As long as they did not keep a Register, the Act would be inoperative; not from any defect in the statute, but from its not being properly carried out."

What then is a Register? In answer to a question put by Mr. Bowen May, as to whether, if the loose sheets of application were bound together (in calf or otherwise), they would constitute a Register, the Magistrate somewhat irritably asked if Mr. May supposed he was so foolish as to think that the binding made any difference. He considered that the names should be entered in the order in which they are registered, on some document capable of being produced when officially called for. He, in fact, considered that a Register should be kept at the office according to the form of Schedule D in the Act: and he was doubtless right in expecting that such a document would be so kept. Ultimately, in consequence of no such Register being produced nor producible, the summons were dismissed; and so much for Henry Scott on that occasion.

We must say that we cannot entirely reconcile the decision of the Magistrate with the terms of the 27th Section of the Act, which lays it down that

"A copy of the Medical Register for the time being, purporting to be so printed and published as aforesaid shall be evidence in all courts and before all justices of the peace and others that the persons therein specified are registered according to the provisions of this Act; and the absence of the name of any person from such copy shall be evidence, *until the contrary be made to appear*, that such person is not registered according to the provisions of this Act."

Now, who is to make "the contrary appear"? Common sense, insisted upon by Mr. Jardine, would seem to us to throw the onus on the person accused. We shall look, however, with some interest and anxiety for a settlement of this legal question by a high legal authority.

But Mr. Jardine is decidedly right when he expects that a Register shall be kept according to the Schedule set forth in the Act. That one has not been so kept, is a clear and convincing proof of the "loose and inefficient manner" in which medical registration has been conducted, and against which the London Medical Registration Association warned the Council at the very onset of the registration. It will be recollected that the Association in December last recommended to the Council the use of certain "forms" of application, on which there were to be attestations of identity and lawful possession of diplomas and licenses by persons to whom the applicant was known. The necessary time occupied in the filling up of these, in addition to other advantages, would have had the effect of moderating the first rush for registration, which converted the Office into a perfect Babel, and involved all the proceedings in an inextricable mass of confusion, the results of which are perceptible to the present day. Instead of a mere exchange of slips of paper, about as large as a duodecimo-book, called "applications," on the one hand, and "certificates" on the other, registration would have been duly conducted according to the form prescribed in the Act, if the advice and the suggestions of the London Medical Registration Association had been adopted in December last. But the Association then received from the Medical Council the cold shoulder; its applications for interviews, for the purpose of making its various suggestions, were disregarded; and it is quite probable that the recent interview might never have been accorded, only that the Council found they had got into a dilemma in consequence of the "loose and inefficient" system, which the Association early detected and remonstrated against. Out of apparent evil, however, good sometimes springs, and we are not inclined to complain of the events that have brought about an *entente cordiale* between the Council and the Association, which promises to be of real service to the profession. The Association, after several rebuffs, has at length obtained access to the Council chamber, and has even been complimented—as was its due—for the zeal and energy which its members have displayed in behalf of the interests of the profession.

The Committee of the London Medical Registration Association acted with admirable promptitude at the late juncture. Directly after the termination of the case at the police-court, they ascertained, by examination at the Registration Office, the fact that there was really "no Register," and they made instant application for a conference with the Council on that subject, which they also found means to get agitated in the House of Commons on the same night. The subject was referred to the House by Sir E. Grogan and Mr. Brady, and an active interest was taken in the matter by Lord Fermoy, Mr. E. James, Mr. Hennessy, Mr. Digby Seymour, Colonel Dunne, Mr. Maguire, and Mr. Adam



Black. Had it not been for the lateness, of the hour (nearly two o'clock on Saturday morning,) these members would have taken part in any discussion that might have arisen, had the Home Secretary replied to the interrogatories of Sir E. Grogan. We are glad to know, however, that the attention of the Home Secretary became so far directed to the subject, that, in reply to an application to that effect, he more recently made an appointment to receive a deputation from the Committee of the Association.

It is but just to the Council to state, that their own attention was drawn to the importance of the matter of the Register immediately on their becoming acquainted with the proceedings at Bow-street, and that in this and other respects, as their minutes will show, they have consulted the interests and wishes of their professional brethren. Thus they have reduced the price of their printed Register, and ordered a manuscript Register to be begun and continued forthwith. We cannot, however, divest ourselves of the idea, that much of this spirit of concession is owing to the pressure that has been exercised from without. The London Medical Registration Association speaks to them in the voice of the profession, of which, indeed, it is a legitimate representative. If the profession will unite with it to a man, and thus make it a powerful and even overwhelming body, there is no reason why they should long remain without many more of their legitimate demands being yielded to them by the various corporate bodies and the Government. We expect to find that a rapid accession of members and a large accumulation of funds will prove the estimation in which the labors of this Association are justly held by the profession.

#### THE SANITARY CONDITION AND CONSTRUCTION OF HOSPITALS.

In our previous observations upon the Sanitary Condition and Construction of Hospitals, we remarked that not the least important and interesting portion of Miss Nightingale's labors\* consists in her critique upon "good and bad hospital structures." For the better carrying out of her purpose, the lady in question has annexed to her book plans of the newest civil and military hospitals constructed in France, in contrast with plans of the more recent civil and military infirmaries erected in England. The Lariboisière as a civil hospital, the Vincennes as a military one exhibit the later and better specimens of hospital arrangement in France. In contrast with these stand King's College and Netley, respectively the latest civil and military structures erected for the sick in Great Britain. The Lariboisière (as will be seen by the plan) contains 600 beds, under six different roofs, while

the Vincennes has the same number arranged in four "pavilions," and two half pavilions. Netley is intended to include 1000 sick and invalids under two roofs. But we will let Miss Nightingale herself bestow both the laurel and the rod.

"Compare," says the lady, "for example, the extreme simplicity of the plan of the military hospital at Vincennes with the great complication of that at Netley; . . . . the pavilions are completely cut off from each other by a large specially ventilated staircase carried above the roof; each ward has a profusion of windows opposite each other, and abundance of light and of ventilation, quite independent of the ventilation of the adjoining pavilions. The wards, moreover, run nearly north and south, and receive the sunlight freely throughout the day. Netley Hospital, on the other hand, presents a perfect rabble of wards and offices, thrown together as if by accident. All the sick wards in each flat have their ventilation connected by a corridor running along and covering the whole south west face of the building, as if designed to obstruct natural ventilation, to keep out sunlight, and to ensure the equal diffusion of an hospital atmosphere throughout the entire line of wards. . . . . Netley may be fairly described as an hospital without sufficient sunlight or natural ventilation.

"The Vincennes has an obvious defect in the position of part of the administrative offices; but even in this respect it is better than Netley, while in all that pertains to the welfare of the sick it is very greatly superior."—p. 22.

We will now pass to the plans of the civil hospitals. One of these is that of an unfinished metropolitan establishment—King's College Hospital, built over St. Clement's Danes burial-ground, which has for years been a public nuisance to the metropolis; the other is the plan of the noble Lariboisière at Paris.

"The English hospital plan presents an epitome of almost every defect in hospital construction. It is an involved Netley plan, with sick in the corridors; for not only have the wards windows only on one side, but there are four rows of beds between the opposite windows; . . . . all is complicated, and there is a want of that simplicity of plan which is essential to the free circulation of air without as well as within the sick wards.

"Turn next to the Lariboisière . . . . The sick pavilions are all detached from each other; . . . . like the Vincennes pavilions they have a profusion of windows, and abundant means of natural ventilation within as well as without. In the much brighter and hotter, as well as colder climate of Paris, a large proportion of the hospital wall is glass, and the sick are arranged between the windows, so that the ward effluvia can readily escape. The English plans, on the contrary, show that in our duller and milder climate, in both senses, our hospital architects do their best to shut out our rare and imperfect

\* Notes on Hospitals, being two papers read before the National Association for the Promotion of Social Science, at Liverpool, in October, 1858, with Evidence given to the Royal Commissioners on the State of the Army in 1857. By Florence Nightingale. pp. 108 London: Parker.

sunlight, and to keep pure air out of the wards as much as possible; while they provide for the sick being so arranged, that the effluvia must pass over a succession of beds before escaping. Anyone making even a cursory examination of these four plans can hardly fail to arrive at the conclusion, that the French plans, with certain obvious defects, show a high appreciation of the importance of hospital hygiene, while the English plans, on the contrary, prove that we have hardly yet begun even to study this branch of knowledge."—p. 22.

The highly improper arrangement of the beds of the patients along the dead walls is to be witnessed at Portsmouth military hospital, Chatham garrison hospital, in the newer portion of the Infirmary at Edinburgh, and is the plan proposed for the new hospital at Netley. This bad arrangement "deprives the patient of the amount of light and air necessary to his recovery, and has besides the disadvantage, that when the windows are opened, the effluvia must blow over all the intervening beds before escaping." Another method deprecated by Miss Nightingale is that of having more than two rows of beds between the windows. In the double wards, or wards back to back, of the newer portion of Guy's Hospital, of King's College, and of the Fever Hospitals, this arrangement is practised, which is objectionable on every account.

"These double wards are from twelve to nearly twenty feet wider than they ought to be between the opposite windows for thorough ventilation. The partition down the middle with apertures makes matters rather worse; complaint has been made that it beats down the draught on the heads of the inner rows of patients."

At the consequences hence resulting we can scarcely be surprised. Let any person conversant with the phenomena of disease go into a badly-constructed, and, consequently, ill-ventilated ward, and look at the sick. Let him pass, as remarks Mr. Godwin,\*

"Into the surgical wards, and ask whether wounds heal kindly—whether operations succeed—whether hospital gangrene ever appears—whether erysipelas is common—whether purulent ulcerations and discharges are apt to take place? In the new surgical part of the Edinburgh Infirmary he will be answered, that 'hospital gangrene is never out of the wards, if full.' In the double wards of Guy's Hospital in London, he will be told that they are only fit for medical cases. In the Scutari hospitals he would have learned, that out of 41 secondary amputations, 36, or upwards of 80 per cent., died; that in one month there have been recorded 80 cases of hospital gangrene!"

But it is not only as regards the immediate medical relations of the patients that great errors are committed; tremendous oversights—

to call them nothing more—are perpetrated relative to the administrative offices of hospital establishments. Those portions of the building connected with the latter should be, of course, conveniently situated, not only for facility of access, but for efficiency of superintendence. In the Netley plan, *c. g.*, this point has been quite lost sight of. Here, as Mr. Godwin pointedly remarks, if the unfortunate governor happened to be wanted at the two extremities of the building successively, he would have to walk half a mile, while with such a plan as that of Lariboisière, he could, in the same time, walk all round the buildings.

Our attention has been drawn to an article in the *Building News* (June 24th), in which are explained the new additions which are in progress at St. George's Hospital. Since the year 1850 no less than £9000 have been expended in various improvements upon the original design of Mr. Wilkins, which cost above £50,000 twenty years before. But this latter expenditure having had reference chiefly to the convenience of the patients, the attention of the governors has now been drawn to the provisions made for the accommodation of the nurses. These being found to be "altogether of an inferior and inadequate description," it was proposed to add another story to the north and south wings, by which the "deficient and incommodious arrangements that now exist" might be obviated. One portion of the additions, then, will be devoted entirely to the night-nurses and their superintendents; another will provide rooms for eight head-nurses; and, further, there will be two wards, more than fifty feet long, "without beds, where the more convalescent patients may be during the day;" to further enhance the advantages of which, "the roof of the central part of the hospital will be made flat, so as to serve as an airing-ground for patients," and on which, under a glazed enclosure, the convalescents may at all seasons enjoy the air and light of heaven." It has been shown that these additions, along with some minor ones for improving the ventilation of the wards generally, can be carried out for a sum not exceeding £6000. On looking at the plans given in our contemporary, we find that in one wing the rooms of the assistant-nurses and of the head-nurses open into a common corridor, into which open also a kitchen, scullery, and watercloset. In the other wing, the rooms of the night-nurses and of their superintendent open into a common corridor, into which open also a kitchen, scullery, and watercloset. True it is that the rooms in question are for nurses and not for patients; but it must be remembered that the day-wards for convalescents open upon the landings exactly opposite the entrances to these common corridors. Upon this "corridor" method Miss Nightingale is deservedly severe. Amongst other observations, she remarks—

"To join all the ward doors and windows on

\* Sites and Construction of Hospitals. *The Builder*, 1858.

one side by means of a corridor is much more objectionable than even to have a dead wall, because the foul air of all the wards must necessarily pass into the corridor; and hence, without extraordinary precautions, such as are not usually nor likely to be bestowed on such matters, these corridors are the certain means of engendering an hospital atmosphere. If anyone wished to see the corridor plan in all its horrors, Scutari would have shown them to him on a colossal scale. But the evils connected with corridors may be seen on a smaller scale in almost every hospital in London, and Netley also is to have its corridor."—p. 14.

The number of cubic feet of space to each bed in the new additions will vary from 1000 to 1800.

We have been informed that the governors contemplate erecting a public drinking fountain upon the hospital premises. It is also stated that in about five years' time the Marquis of Westminster will complete Grosvenor-crescent, continuing it into Grosvenor-place. A portion of Messrs. Tattersall's premises, and the first three or four houses in Grosvenor-place, will be pulled down, and St. George's Hospital will then form the corner of the new street leading into Belgrave-square.

#### THE MEDICAL ACT AMENDMENT BILL.

In March last, the Medical Act Amendment Bill was introduced into Parliament for extending the time of Registration, and also for correcting certain clerical errors which existed in the Medical Act.

In the course of the passage of the Bill through the House of Lords, the authorities of Trinity College, Dublin, had influence enough to obtain the introduction of provisions which would have given to it the power of conferring licences in surgery.

The policy of such an extension of university power is doubtful, being a manifest encroachment on the privileges of the College of Surgeons of Ireland, one of the most liberal and best-conducted colleges in the empire. Such a power given to universities would, besides, have the effect of tending to encourage lower academic attainments, for the universities can never enter into keen competition with the colleges without more or less losing sight of the fact that their mission is to raise up a body of practitioners, not only well qualified professionally, but also exhibiting literary and academic culture.

Be this as it may, however, the opposition raised against the Bill was so great that when it came back to the Commons with the obnoxious clause introduced, that body disagreed to the amendments of the Lords on the following grounds:—

1. Because it is a new enactment, extend-

ing the provisions of the amended Act, and therefore, beyond the scope of this Bill.

2. Because it introduces terms objected to by certain other colleges. And

3. Because the amendment has not been communicated to the Medical Council.

The last of these objections appears especially valuable as preventing hasty legislation, and the serious evils which would inevitably follow were any corporation having parliamentary influence to exert it to obtain privileges to the prejudice of other bodies.

On this representation the Lords yielded to the objections of the Commons, the obnoxious clause was struck out of the Bill, and matters remained in the former state.

At a meeting of the Executive Committee of the General Medical Council, held on the 5th inst., a letter was read from the Secretary of the Council of the Royal College of Surgeons of Ireland, protesting against the entry in the Medical Register of an undergraduate diploma or licence granted by the University of Dublin, and purporting to confer a qualification to practice Surgery. This letter was accompanied by an opinion from James A. Lawson, Q.C., to the effect

"That licences or diplomas in surgery from Trinity College University, Dublin, are not qualifications entitling the holders to be registered under the Medical Act."

Finding the law to be thus against them, the authorities of the University have got their representative in Parliament to introduce a Bill to legalize these degrees or diplomas, which has been pushed forward with such haste as to have passed the second reading. The other bodies having interest have now awakened to a sense of this aggression, and in all probability a strong opposition will be brought to bear against the measure. Surely, with the meeting of the Medical Council so close at hand, the House of Commons can scarcely, with any decency, press forward this measure without consulting the Council, in the face of their own objection to the Lords' amendments on the former Bill—that "it had not been communicated to the Medical Council."

#### THE IMPORTATION OF CHOLERA FROM HAMBURG.

In our "Mirror" of the present issue will be found the history of a series of cases of cholera, which deserves to fix the immediate attention of the profession, and of all concerned in sanitary administration. The cases observed on board the *Dreadnought* hospital ship may mark the commencement of an epidemic invasion, which, like previous visitations, may spread throughout the land; or they may remain as isolated instances. In either event, their history is full of interest, and points to the instant adoption of certain local and national hygienic precautions.

A brief summary of the outbreak, drawn from the clinical book of Dr. Barnes, will best serve to place the facts clearly before our readers.

Down to the 28th of July last, the health of the river population, as tested by the experience of the *Dreadnought* physicians and surgeons, and that of Dr. M'William, the physicians to the Customs, had been reported good. Diarrhœa, as it appeared from the returns of the Registrar-General, had been even less fatal on the river and its vicinity than in the suburban districts. From the testimony of Professor Miller, which was confirmed by those who, from daily observation, were best qualified to form an opinion, the state of the river had been sensibly improving. In the Pool, high water always brought complete relief from offensive emanations; and even at low water the annoyance was comparatively small. There seemed reason to believe that the deodorizing operations directed by Dr. Miller had, in conjunction perhaps with natural atmospheric agency, been really efficacious in diminishing the putrefactive fermentation of the water. Under these circumstances, the following events occurred:—

On the 28th of July, three men were admitted on board the *Dreadnought*. One of these had come from Sydney, and had left his ship in the London Dock, on the 15th, to lodge in the neighborhood. He was taken ill, with purging, vomiting, and cramps, at the Euston-square station, on the 23d. He was relieved by treatment, but relapsed. A second man had left Poole on the 9th of May for Hamburg, where he lived for two or three weeks, *drinking copiously of water from the river*. He arrived in London from Hamburg in the *Eagle* sailing-vessel on the 28th, having been ill four days with symptoms which can scarcely be ascribed to cholera. A third man, the chief mate of the *Eugénie* an American sailor, was admitted from the Commercial Dock. The ship had been lying there about ten days; the crew had left. This man was seized on the night of the 27th, was admitted in a state of collapse on the 28th, and died in the secondary stage of cholera on the 1st of August. It is doubtful whether the first case was one of true cholera, there is less ambiguity about the second—that of the man who came from Hamburg; about the third, which arose in the Commercial Dock, there is no doubt whatever. It may be concluded that the second man caught the infection at Hamburg, where cholera is prevalent, and probably from drinking the contaminated water of the Elbe. The origin of the third case is not easy to explain. The ship *Eugénie* is reported to be in a dirty state, and dirty water brought from the Gulf of Florida was in use. Was it a case of sporadic cholera? Had he had any communication with Hamburg sailors? According to the particular theories which subjugate them, many persons will see no difficulty in assigning a cause. For ourselves, we prefer to state the facts as far as they are known. On the 30th of

July, the *Cosmopolitan* steamer arrived in the Thames from Hamburg, which place she left on the 27th. On the passage it is reported that seven or eight of the crew were seized with vomiting and purging. One man was put ashore at Gravesend, where he died; another was brought on to the *Dreadnought*, and died on the stage; two more, who were less severely attacked, were admitted into that hospital. On the 3d instant these men were doing well. The General Steam Navigation Company, to whom the *Cosmopolitan* belongs, are habitually supplied with filtered water in London; but it is believed that on this occasion the London water ran short, and the supply was made up in Hamburg.

The remarkable fact, that a disposition to diarrhœa became manifest in the hospital soon after the reception of these cholera patients, should not be overlooked. It seems to indicate an infectious property of the disease.

With this history before us, the important question arises—What steps should be taken to watch and control the new invasion of cholera which so significantly threatens our shores? Whatever credit we may attach to the non-contagion theory, the whole history of cholera teaches us that the disease may be carried and introduced from one country into another by ships. A previous epidemic reached us from Hamburg. The constant and great intercourse between that port and the ports of London and Hull subjects us to a renewal of this importation. There are two points at which precautionary or preventive measures might be instituted. The first is at the seat of origin or exportation of the disease—namely, at Hamburg. There our influence can only be of an indirect kind. But since the principle of quarantine has been abandoned in this country, it seems not unreasonable that representations should be addressed to the Government in that city urging a strict sanitary supervision of the shipping, harbor, and town. Especial pains should be taken that the supply of water should be from a pure source. On our side of the German Ocean, we are called upon to protect ourselves. It appears to be an obvious duty, in the interest of the crews and passengers of ships coming from infected ports, as well as for the protection of the community at large, that vessels coming from Hamburg should be systematically visited by a sanitary inspector. If any sick be found on board, they should be sent to an hospital, without being permitted to go to the ordinary lodging-houses ashore. A similar arrangement is in actual operation at Southampton, with a view to guard against the importation of yellow fever from the West Indies, although there is but scanty evidence that yellow fever admits of being propagated from infected passengers to the inhabitants of the town. The argument for a medical officer of health in the port of London is much stronger; and we are clearly of opinion that in providing medical officers of health for

the various districts of the metropolis, a serious oversight was committed in ignoring the immense floating population of the Thames. The health of our merchant seamen is but imperfectly guarded against the negligence and parsimony of certain owners and captains. There is a disposition to suppress information as to the occurrence of sickness on board passenger and trading vessels. This can only be met by regular visitation. The revenue is protected by a staff of Custom's officers; the national health is uncared for. It will be said that we cannot support the expense, or be subject to the annoyance of an army of sanitary inspectors. There is no necessity for a large establishment. It would be needless to send a medical officer on board every ship entering the river. The Custom's officers might be required to report to Dr. M'William if any sickness were prevalent in the ships of which they had taken charge. It is only in special cases that the medical inspection need be instituted.

Since the history of past epidemics, and the facts now placed before our readers, amply demonstrate that devastating diseases may be imported as well as merchandise, we feel it our duty to urge a vigilant sanitary inspection of the ports in connection with unhealthy localities.

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### Medical Annotations.

"No quid nimis."

#### PURE WATER.

There is not any form of sanitary improvement in which medical practitioners and officers of health are more highly interested than the supply of mechanically and chemically pure water for household and potable consumption. In the face of the great difficulties which encumber the purification of the Thames, the source of our water supply, we Londoners are especially interested in whatever can effectually and cheaply remove the animal poisons and putrid abominations with which the fluid in our cisterns and water-vessels mischievously abounds. Of filters, the name is legion. But a substance has been lately introduced to the notice of scientific men, as a new filtering and purifying medium, of which the qualities are affirmed to be of so remarkable a character that they deserve a careful investigation from our more eminent chemists and sanitarians. This substance is the ferroso-ferric carbide of iron, or magnetic carbide of iron, the properties of which have been investigated by Professors Brand and Clarke, and Mr. Thos. Spencer, and are very ably described by the latter gentleman in an interesting letter lately printed, and addressed to Mr. Charles May, F.R.S. As a mechanical filter, the carbide of iron is peculiarly effective and rapid in its action, by virtue of its high magnetic power; for it is by the magnetic attraction of

the light bodies held in suspension by water that mechanical filters generally, such as sand and other similar media, effect filtration. Where the magnetic power is low, a finely-grained layer of filtering material must be employed; and the higher the magnetic power the coarser may be the grain, the larger the interstitial spaces, and therefore the more rapid the filtration. The fact stands as to the considerable power of the carbide, and this is the theory by which Mr. Spencer explains it.

The chemical purification of the water is effected yet more remarkably. The magnetic carbide possesses the singular power of attracting oxygen to its surface, and condensing it there, without entering into any chemical combination with the gas, although catalytically affecting its properties; just as a magnet will attract a loose heap of iron filings, polarize them, in arranging them in striæ, and endow them with properties other than those which they possessed before. It will be remembered that Schönbein first observed that the oxygen of the atmosphere in the vicinity of an electrical machine, which had been recently employed, contained an altered form of oxygen, which he called ozone—a form of oxygen which possesses all the powers of that gas in an intensified degree, and has the great quality of combining with and neutralizing every kind of noxious body of organic origin. This ozone, the great natural agent of purification, is generated in quantity on the surface of the proto-carbide, and energetically manifests its presence by the exercise of its splendid chemical powers of purification. Passed through this filtering medium, water is deprived of all color, taste, and odor; nearly all deleterious gases which it can contain, as sulphuretted or phosphuretted hydrogen, are rendered innocuous by the forced combination with oxygen; soft water thus treated has been proved by Mr. Spencer to have no action on lead; and, finally, water so filtered has very little, if any, tendency to give birth subsequently to animal or vegetable organisms.

These properties are so valuable, so highly interesting in a chemical and physical point of view, and so serviceable to the sanitarian, that important results must arise from the further application of the powers of the magnetic carbide.

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#### DEMORALIZATION A SOURCE OF DISEASE.

Sanitary science has achieved as great triumphs during the last twenty years as any other collateral department of human knowledge and labor. If the application of steam power and of the electric current have abridged time and space—if chloroform has annulled pain, and taken the sting from the sharpest of human pangs—the progress of sanitary science has given increased years to the average space of life, and has driven from the field diseases that were the curse of existence. It is difficult, therefore, to over-estimate the importance of the work which

has been done by sanitary reformers, or of that which remains to be done. But it is a great mistake to look at the world exclusively through sanitary spectacles; and into this error many excellent philanthropists now fall. They glance down the columns of The Registrar-General's reports; they read the eloquent figures of Dr. Farr, and his philosophic discussion of the causes that affect the progress of zymotic disease; and from the numberless instances in which death is traced to dirt and neglect, defective ventilation and bad sewerage, they conclude that these are the sole causes of the death-rate that shames our civilization. But indeed we must look further. Let sanitary measures have full play and full encouragement, there will still remain unnatural causes of death which enhance the mortality to a fearful extent.

The most terrible item in the death-rates of great cities is furnished by the account of deaths amongst infants. It varies from half the total mortality to considerably less than one-third. That this great mortality is due wholly to physical conditions, is a theorem too often assumed to be true, but one from which we would emphatically dissent, and which may easily be shown to be false. For if this were so, then adult life should show an equally striking depreciation of value as the result of hygienic deficiencies. But this is not so. For instance, the city of Glasgow is healthier than London, if the average of the census figures be taken; but the infant mortality is enormous, not less than 53.8 per cent. upon the mortality of all ages. The mortality amongst children is influenced by other conditions besides those of simple hygiene. It is interwoven with the tissue of immorality, of crime, and of neglect, which encircles the population of great towns. There are moral causes for this terrible account of disease and of death. It arises from maternal neglect, from habitual drugging, from desertion, from the absence of medical aid, from the want of food and necessities, denied by cruel and unnatural parents. It arises from the dissipation, the intemperance, the improvidence of the laboring classes.

Such a case as that of Michael Croker, indicted for a criminal assault upon a girl of thirteen, tried at the Central Criminal Court last week, indicates the nature of that substratum of crime, of misery, and of guilt, which lies at the bottom of a part of our vast infant mortality. Here was a poor girl driven daily from home to beg, to thieve, to wander, to starve; to return home if she could scrape together sixpence—if not, to lie in the streets. This organized system of cruelty amongst depraved parents is a fertile cause of disease; and, as we value all the means by which disease can be combated and misery arrested, it becomes us to recognize this connexion between vice and physical degradation, and to call earnestly for that moral regeneration which will bring with it material improvement. That also will be a vital reform—a reform that

will diminish death-rates, and lessen the doctor's work amongst the masses, which shall have faced and destroyed the vice, the dissipation, the profligacy, the cruelty, and the neglect, which leave children deserted and wives starving, which make girls prostitutes and boys criminals, which make the dark cellar yet more destitute of necessities and more fertile in springs of disease, and which deprive men and women of their moral sense and almost of their human nature. This would also be a sanitary work, although not one of drainage or of water supply; and when we review the accusing figures of the Registrar-General we must bear in mind that both physical and moral causes lie at the root of this great evil.

#### A HOMŒOPATHIC CONQUEST.

It is a sad thing to see a septagenarian assume the cap and bells. The association of age with wisdom is infinitely more grateful to our natural feelings than its disfigurement by imbecility. It is with a somewhat more than ordinary compassion and regret that we find a man of the age and past respectability of Dr. Conquest ask publicly the question, "What is homœopathy?" and, instead of replying that it is imbecility, chaos, and fraud, lend himself to the mystery-mongering and gabble of its most extreme professors. The bewildering want of logic or sequence of his pamphlet makes it difficult to discover his meaning. We gather that he proclaims himself a homœopath. How wavering and how unsettled, how unwilling to resign the last conclusions of reason, and how willing to adopt the first plausible theory that occurs by way of justification, this singular pamphlet more than sufficiently shows. At one place he just ventures to hint a doubt whether "sufficient evidence exists to justify the declaration that articles in themselves perfectly innocuous, and which may be taken into the stomach in any quantity without inconvenience beyond that produced by the bulk and weight, (such as chalk, coffee, &c.) do undergo some mighty change from the mere division of their particles;" soon after he laughs at the "marvellous, or rather miraculous, powers of a billionth or quadrillionth of a grain of chalk or coffee;" but then he reconciles himself to the miracle by the consideration that "a very small dose, by co-operation with the vital principles of the constitution which is striving to overcome disease, accomplishes more than a large dose!" This co-operation of the vital principle with the small dose must be a very pretty spectacle, and we do not wonder that it fascinated Dr. Conquest's imagination. But it is very hard that the "vital principle of the constitution" should manifest so strong a partiality for heresies, and unfairly help their professors out of the mud. Does the "vital principle" never help us? Who is Dr. Conquest's friend that is on such intimate terms with the vital principle of the constitution, and

knows its mind so well? We should like to have a little more information as to its partialities, only we are no "gobemouches," and we should not like to accept mere "canards." The information must be verified. We fancy, however, that the globulists have but a lukewarm supporter in their septagenarian convert. Dr. Conquest holds that conscience need not preclude a double allegiance. He fights in either army, and will say yea or nay as you will. The complaints in which he considers that infinitesimal globules are of great value, are "purely nervous complaints." On the other hand, he is neither so ignorant, so proud, nor so prejudiced as to reject aperients and counter-irritants in relieving congestive diseases, whether active or otherwise. He will purge and he will blister; but he thinks nasty medicines ought to be avoided in "purely nervous complaints," and then he recommends sugar-plums. This is a new and revised edition of the Art of Physic; this is a new method to eat a cake and have it too. This suits all classes of patients; it is liberal and progressive; but we trust it may be long before an honorable body of men hoist the double colors. And Dr. Conquest must pardon us if we decline to class him on such grounds with Galileo or with Harvey, which seems to be about his own estimate of his present position.

#### THE THAMES IN THE HOUSE.

If the river Thames itself had been turned into the House of Commons with its full stream, it could hardly have caused greater perturbation than was excited this week by the presence of its noisome stench. Its vicinity is perceived in all the chambers of that legislative palace. Sir S. M. Peto opened the subject by notices of motion which required returns of all the deodorizing methods now pursued, and an account of the works undertaken by the Metropolitan Board. Here is his motion:—"That an address be presented to the Crown for returns from the Metropolitan Board of Works and from all district boards established under the Metropolis Local Management Act, and from the City (of London) Commissioners of sewers, of any and all operations performed by them between the 25th day of March last and the 18th day of June inst., with the object of preventing the occurrence of noisome effluvia from the river Thames, and particularly of the quantities of lime or other deodorizing agents day by day used for that purpose; specifying, in tabular form, when, where, and to what amount, such agents or any of them were respectively employed, and the sums of money expended on and about the use thereof: tabular returns from the Metropolitan Board of Works and the Board of Conservancy of the River Thames respectively, of the daily or other ascertained quantities of fresh water which have passed into the tideway of the river Thames from the weir at Teddington-lock, and from the other principal streams which discharge into the said tideway be-

tween Teddington-lock and Chelsea-bridge, and particularly of the daily quantities in the years 1858 and 1859; from all the metropolitan water-works, of the daily quantities of water delivered by them respectively in the years 1858 and 1859; from the Astromomer Royal, of the daily quantities of rain fallen at Greenwich, and at any other places within the drainage area of the Thames of which he possesses particulars, and of the daily mean temperature of the atmosphere at Greenwich, and of the water of the river Thames, for the last three years; from the medical and other officers of Her Majesty's hospital-ship *Dreadnought*, moored in the Thames, of any and all observations and experiments made by them, or under their direction, with reference to the condition of the river in the years 1858 and 1859; and returns from Her Majesty's Office of Works, and from the Metropolitan Board of Works, of any communications, resolutions, and measures of the years 1858 and 1859, in reference to the suggested improvement of the river Thames by embanking the same, and by forming low-level sewers within the embanked spaces."

The hon. member then moved for leave to bring in a Bill to provide for the prevention of noisome effluvia from the river Thames within the metropolis. The Bill was not intended to reflect directly or indirectly upon the manner in which the Metropolitan Board of Works performed their duties, but he thought the House was entitled to require that periodical returns should be made by the Board with regard to their proceedings. The Bill required the Metropolitan Board of Works, and the various district boards, to make monthly returns with reference to the measures adopted for the improvement of the sewerage, and the prevention of noisome effluvia from the Thames. It might be said that these returns would readily be given without being compulsory; but, as the subject was one of the utmost importance, and as the sanitary condition of the metropolis was so materially affected by the condition of the Thames, he thought that the Metropolitan Commissioners ought to be required to render a very minute account of all their proceedings. He did not mean to impose any restriction upon the Commissioners, for the responsibility would still rest with them; but he thought Parliament ought to have the means of ascertaining from time to time whether the Commissioners were doing all in their power for the purification of the river. He had also introduced a clause giving increased powers of taxation, in case the existing ones should not be found sufficient; and also a provision that if at any time the state of the Thames was such as not to require the adoption of these measures, the Secretary of State for the Home Department might dispense with them.

The returns required by this Bill will afford useful information, but its title is clearly a misnomer, since it in nowise provides or suggests remedies for this "gigantic evil." The Board



of Works have undertaken the cure, and for the present they must be allowed to carry out their drainage plan, albeit it encounters hostility on all sides.

#### BACHELORS OF AGILITY.

When the discovery was made, recently, that British soldiers in barracks, on home duty, and protected by all the resources of a perfectly supplied commissariat, die off at the rate of 22 per 1000, military men were at their wit's end to supply reasons for so monstrous a mortality. Many singular hypotheses were broached, with a view of reconciling all that is tiresome and odious in military discipline with the laws of health; but liberal and intelligent soldiers declared that the want of exercise and amusement for the men, the devouring *ennui* and indolence, took all life and flavour from their leisure hours as from their periods of duty, lowered their spirits, and depressed their health. This judicious view was especially supported by Colonel Lindsay; and in the analysis of the evidence which was given in *THE LANCET* at the time, the necessity for active and out-door exercises and games to fill the leisure hours was strongly indicated. A recent distribution of prizes at Joinville-le-Pont had revealed to the public the existence of a gymnastic military school, where such exercises are cultivated to the highest point, and with the greatest advantage to the service. An eye-witness reports that the solemnity was graced by the presence of the Minister-of-War and all the highest officers of the French army. "The candidates for distinction are all officers or subalterns, having already served, and the object of competition is the diploma of 'Monitor,' or rather the degree of 'Bachelor of Agility,' which is conferred upon the most dexterous in manly sports, with the view of securing the appointment of gymnastic master in one or other of the regiments of the French army. The institution of Joinville confines itself entirely to the instruction of gymnastics and other bodily exercises, whether imparting strength, skill, or grace, according to the system here adopted. We are surprised that every soldier in the French service is not an Admirable Crichton. The perfection of the Zouaves no longer astonishes, and we cannot wonder at the clumsy inferiority of the British soldier, from whom such instruction as imparted at Joinville is withheld, and who consequently knows only how to present himself before the enemy, and hangs back with awkward bashfulness when ushered suddenly into the company of friends. Here we have grown-up bronzed and bearded men, warriors who have stormed the heights of Alma and rushed on Malakoff, competing together for an 'accessit' in fencing, boxing, single-stick and even dancing!"

It is thus the efficiency of the soldiers may be increased, at the same time that their health is consulted. We are glad to learn that the Duke

of Cambridge has given orders for the introduction of a somewhat similar system into our army.

#### LIFE AND LITERATURE.

The determination of probabilities, always an interesting study, is never more so than when it is sought to deduce from statistical data the equation of the vitality of man. Biological inquiries are naturally those which appeal most closely to the hopes and fears of the individual who seeks to read his fate in the horoscope of the multitude, and entertains the hope that he may at least enjoy the average duration of life, even if he may not expect to attain the maximum limit. Such inquiries have, moreover, a positive medical value, since they point out exceptional conditions of disease and brevity of existence, which otherwise fail to attract attention, and suggest often-times the remedy by the mere indication of the evil. It is impossible to forget the striking results which were thus educed during the late inquiry into the sanitary condition of our army. That investigation has already been fruitful in reforms, which promise to lengthen the healthy lives of military men; and, under the sympathetic rule of Mr. Sidney Herbert, it is not to be doubted that Mr. Alexander will succeed in removing many other of the causes of disease to which the troops have hitherto been unnecessarily subjected.

Dr. Guy, who took an active interest in this inquiry while it was in progress, has pushed his statistical investigations into the ranks of literature and science. The data are obtained from long and laborious investigation of hygienic records, and present a mass of interesting figures. There is, however, a haze of uncertainty about the results. Literary men are a very mixed class; they are draughted from all ranks; they belong to all classes; they practise habitually professions besides that of letters, and are largely and frequently abstracted from the influences which are special to their pursuit, and, as such, might be supposed to influence the duration of their lives. Nevertheless, they have in the mass some common characteristics, and Dr. Guy conceives that he has eliminated some general results. The life period of poets and schoolmasters is considerably below that of miscellaneous writers, antiquarians, and historians. This is not surprising. To a poet, inspiration comes early, and commonly disappointment; his literary labours engross his youth, and they are perhaps peculiarly fatiguing to mind and body. The schoolmaster, chained to his desk, wearied in frame, and with overworked brain, is placed under disadvantageous circumstances. The moral of this is, that he should provide for mid-day exercise and recreation, and be careful that his school-room is sufficiently ventilated. The Benedicts of literature, as of other classes, have a balance of six years in their favour. On the whole, the pursuit of literature is favourable

to longevity, giving an average of 68 as the mean term of existence; but it is detrimental to life if commenced in youth. It is well that this latter fact should be widely known; it accords with the *a priori* teachings of physiology. Youth is the period of active physical development, and sedentary employments cannot be closely followed at that time without injury to health and ultimate shortening of life.

#### LEGISLATION ON SMALL-POX.

The remarkable increase of epidemic small-pox, and the steady growth of the figures indicating the proportion of deaths from this disease, are facts to which we have not ceased to call public attention of late years. The figures of the Registrar-General, emphatically as they support this statement of a growing mortality from a horrible but preventible disease, do not represent more than a moiety of the actual evil; for a great part of the small-pox which now so extensively prevails presents itself in a modified form, and has but little tendency to pass from the lists of sickness to the roll of death. It is a mild type of small-pox, not nearly so fatal as the primary affection, and owes this character to the fact of its occurrence amongst those who have been previously vaccinated, but at a period so remote as to be ineffectual in affording sufficient protection. It is a question, therefore, which must be fully weighed by those who are occupied in legislating, or in preparing legislative measures concerning vaccination, whether the mere introduction of more stringent measures into an Act for the purpose of rendering the compulsory clauses of the Vaccination Act more effective, would sufficiently or at all avail to obviate the evil.

It is a well known and well-recognised fact, that a first vaccination is ineffectual in warding off small-pox after a certain period—seven years or more—has elapsed. It is as necessary for the extinction of small pox that revaccination should be compulsory as that vaccination should in the first instance be required. And, in this case, there would be no difficulty in legislating, since the requirement is one of the same urgency and character, and can be supplied by the employment of the same means as those which are already justified by the legislative enactment providing for primary vaccination. Here is an evident blot in our sanitary legislation. And it will be a good and useful work to fill the void by a simple and sensible enactment.

#### TRACES OF STRYCHNINE.

The toxicological history of poisonous alkaloids is not yet complete. A few years since it was, however, altogether a black haze. Thus it was that when the crimes of Palmer and the unhappy death of Cook gave painful interest and dangerous notoriety to the surprising and dead-

ly influence of strychnine on the human system, very false and mischievous notions prevailed, even amongst men who should have been best informed, as to the evanescence of this poison when taken into the body; and very imperfect means of detection were still employed, of which the inefficiency to demonstrate the existence of small quantities of strychnine in organic mixtures favored the erroneous opinion of its evanescence—an error fatal to the safety of society, and now happily dispelled. The experiments of Messrs. Rogers and Girdwood, published in these columns, and the processes of Staas, Herapath, and Melsens, have at once provided the means of detecting the most minute traces of strychnine and other alkaloids in organic solutions, and have demonstrated a singular persistence in their original shape, long surviving the processes of decomposition and putrefaction in the tissues with which they are unnaturally combined. Science is never better employed than in the service of morality and in the interests of human life. No small debt is due to those who have strengthened the hand of justice, and directed its shafts yet more unerringly to the heart of guilt. It is thus that crime is prevented; it is thus that life is saved. If it were everywhere known that crime cannot elude justice—that the skill to detect is greater than the hardihood to perpetrate—that punishment does indeed, and of necessity, follow guilty practice, it cannot be doubted that the safeguards of life and health would be materially increased, and that poisoning would cease in the land. It is well to note strongly and to publish whatever tends to confirm this now established fact of the persistence of vegetable and so-called secret poisons—now no longer secret, but bare to the eye of science, and self-betrayed to the mere tyro in chemistry. Strychnine is largely used by sporting men to get rid of vermin, and their experience of its effects on animals may be pressed into the service of the toxicologist. A writer in *The Review*, who has had twenty years' experience in the use of it, gives an interesting account of its effects on birds and animals, and mentions one or two facts which are of importance. It will be remembered that Messrs. Rogers and Girdwood obtained strychnine from bony tissues long after death and putrefaction, when it had been administered in moderate doses during life. The sporting writer says—"I once knew a greyhound bitch poisoned in consequence of having picked up the leg bone of a hare completely bare of flesh, it having been eaten off by hoddie crows for whom the bait had been laid three months previously, poisoned with strychnine, and which had destroyed hundreds of them." Thus, then, we have an additional testimony to the remarkable manner in which these vegetable poisons permeate all the tissues, retaining all their original powers and reactions, and to so great an extent that this one bone, after three months, contained enough of strychnine to poison a greyhound. This is a

very significant lesson to whomsoever might have been deluded into a notion that the alkaloid poisons fade and "tell no tales;" they remain to bear witness, and, at the summons of the chemist, they start out and reveal themselves in response to every test which he applies.

#### BATHING NO NUISANCE.

Four lads have been brought before the judgment-seat of the law charged with an offence which if it be expressed in the strong language of the complainants, implies a moral no less than a legal misdemeanor. The scene of the offence was Forest-hill, and the day one of intense summer heat; the thermometer standing at 100°, and the air so sultry that men long resident in India and Australia proclaim themselves unequal to endure the heat. On such a day did these four lads, being sons of people residing at Sydenham, resolve to lave themselves in the "cool and temperate flood;" and for this purpose chose a stream where no public right exists for wayfarers, and fifty yards from the backs of the nearest houses. Nevertheless, some people coming to this spot resolved that it was an indecency and a nuisance so to bathe, and the boys were incontinently transported to Greenwich, there to receive fitting punishment. Fortunately, no ignorant Justice Shallow was on the bench, but a sensible and intelligent police-magistrate, Mr. Secker, whose admirable remarks in discharging the boys entitle him to public thanks.

Bathing is an admirable and healthful practice, and swimming a useful and manly exercise, to be encouraged on all convenient and proper occasions. There is a great deal of offensive prudery occasionally manifested in such matters, and much more of selfishness and want of consideration. In this case, Mr. Secker justly observed that he could not see that the lads had committed any offence or outrage upon public decency in following those healthful exercises which it was necessary that lads of their age should enjoy. The public, it appeared, had no right of way, and "if persons in their walks experienced a nuisance such as that stated, they could avoid it by walking in another direction up the hill." It is not to be forgotten that even the banks of the aristocratic Serpentine—eminently a public thoroughfare—are given up to the bathers at certain hours; and surely this example may have some weight with the dignitaries of Forest-hill.

#### MEDICAL EXCERPTA FROM CIVIL SERVICE ESTIMATES.

The estimates for the Civil Services for the year ending 31st of March, 1860, have just been printed. They include an estimate of superannuation, and retired allowances, and gratuities for charitable and other purposes. Amongst those which have a medical interest, we find the

following:—Army prisons: Mr. James Wade, surgeon, Millbank; age at retirement, 57; £125 per annum; ill health. Colonial convict establishments: Dr. J. W. Agnew, £55 per annum; Mr. Cornelius Carey, £123; Dr. G. Everett, £77; Mr. G. F. Hurton, £100 2s. 6d.—Retirements by reduction: Dr. Thos. Turner, Commissioner of Lunacy, is superannuated at the age of 84, after ten years' service, at £1500 per annum, on £375 per annum; Mr. Bacot, the late Inspector of Anatomy, at the age of 76, after fifteen years' service at £300 a year, retire with allowance of £72 annually.—The Dublin hospitals will receive £15,865, distributed in the following proportions, and in accordance with the recommendations of the Commission of Inquiry appointed in 1855, in pursuance of the report of the House of Commons of 1854:—

Westmoreland Lock Hospital	- - -	£2,600
Ratunda Lying-in Hospital	- - -	700
Coombe Lying-in Hospital	- - -	200
House of Industry Hospitals	- - -	7,600
Cork street Fever Hospital	- - -	2,500
The Meath Hospital	- - -	600
St. Mark's Ophthalmic Hospital	- - -	100
Dr. Stevens' Hospital	- - -	1,300

Total for Hospitals	- - -	£15,600
Board of Superintendence, Salaries, and Expenses	- - -	265
		£15,865

In addition to this, £2717 will probably be required to be voted, to pay to the treasurers of public infirmaries in Ireland the allowances granted by 5 Geo. III. c. 36; these allowances will be discontinued by the Medical Charities Act, 14 and 15 Vict. C. 68, when the officers receiving them at the time of passing that Act shall cease to hold their respective offices. The distribution it is as follows: twenty eight infirmaries at £89 1s 10d. each, making £2494 11s. 4d.; and five at £44 10s. 11d. each, making £222 14s. 7d.

#### THE VICTIMS OF CANCER CURERS.

The black doctor, whom M. Velpeau allowed to occupy the public eye, standing upon the pedestal of Fame which is the heritage of the Hôpital de la Charité and its professors, and then strove hastily and regretfully to dethrone from the eminence to which he had raised him, has at last sunk into the gulf which, sooner or later, awaits impostors. The patient upon whose case he stood defiant, declaring her cured of the disease which is so pitiless and so unforgiving, has succumbed, like many other victims. Upon the slender thread of her life hung his fame and fortune; when she rallied for a moment, all Paris flocked to him; her husband, M. de Rougemont, became his apostle and missionary in the highest circles. The pretender was summoned,

it is said, to the person of the Emperor, and permission given him to practice his follies upon the Imperial patient. Letters from Paris assert that the Emperor sent for him before starting for the Army of Italy, and expressed himself so confident of his successful treatment that he delayed his departure in order to follow it up. This circumstance gave the black doctor an impetus of fashion, but the vogue has been deserting him gradually, and the four hundred patients of to-day have diminished to a few of the more obstinately credulous who still continue to pay their money and believe.

As an appendix to the tale of this temporarily successful pretender, we append some extracts from the advertisement of a local tailor in Ayr, who is ambitious apparently of a like notoriety and a similar career:—

"**CANCER, AND ITS CURE.**—At the very earnest solicitations of many of whom I have cured of the above disease, and others who have seen the effect of my treatment, I have been persuaded to give it greater publicity. In doing this, I am far from claiming any share of merit to myself for my mode of treatment. It is ascribed to a learned German, from whom it got into my family, and has been successfully handed down for nearly 100 years; and cures are constantly being made, not a few of them after the most celebrated of the medical profession in Scotland had done their best without success. Hitherto this has been done in the most quiet and unostentatious way possible. . . . I apply a plaster, which is of such a nature that it softens the parts around the growth or cancer, and loosens its fibres or claws to such an extent that it is soon completely sloughed out, like a weed out of a soft soil, leaving a clean, healthy wound, which in a short time skins over, and looks the same as the surrounding parts. This treatment equally applies to lupus, and many other external growths not of a cancerous nature.

"In closing the above remarks, I would respectfully state that there is nothing in my treatment which I could wish to hide from any medical man, further than the ingredients used for extraction. . . .

*"I shall now only add, in committing the above information to the public, that it is as much a matter of humanity with me as of pecuniary interest, as my business makes me perfectly independent of anything connected with the treatment of cancer.*

John Watson, clothier, 23 & 25, Newmarket-street, Ayr."

#### A BATCH OF OFFENDERS.

It is one of the natural results of the censorial functions of a professional journal which aims at preserving the purity and honor of a class, by repudiating and publicly reprobating the *laches* and the misdeeds of a few, that the painful necessity of reiterating censure in similar terms

for like faults should inspire a certain weariness and disgust—an unwillingness to go through the old unpleasant formulæ, to enunciate the well-known axioms of professional propriety, and at the same time to record the acts of those who disregard them. In this weariness and disgust offenders find their account. We are for ever receiving slips from country papers, containing every variety of direct or oblique puff, exhibiting a fertile activity of invention in all the departments of advertising, openly and covertly, and but too often marked by a total disregard of the conventions which maintain the credit and respectability of a profession as contrasted with a trade. We take at random a series of such cuttings from a pile now before us; and the first that falls into our hands is a watery paragraph from the *Wigan Observer*, which runs thus:—

"**SURGICAL OPERATION.**—About a fortnight ago the operation of tapping in a case of dropsy was performed by Mr. Bamford, surgeon, on a poor woman of this town, daughter to Mrs. Stour, greengrocer, Market-place, who had suffered for many years from this distressing complaint, and had at length become so unwieldy as to be quite helpless. In the course of the operation, which was performed in Mr. Bamford's accustomed masterly manner, no less than fifty-one quarts of water were drawn from the poor woman. We are glad to find that, since the operation, the patient has much improved in her general health."

The skill of the surgeon seems to be measured here by the quantity of "water" drawn off, and his points of honor to be reckoned by pints of fluid. Surely this dropsical paragraph must have been indited by a turncock. Such a watery *effusion* should be as painful to the surgeon as to the patient; and it ought to be immediately disowned by Mr. Bamford.

A worse specimen is indicated by the next:—

#### "A CARD.

Mr. Johnson, Surgeon, Hogsthorpe, attends Alford Market every Tuesday, from 12 till 3.

☞ Rooms at Mr. Goodhand's, shoemaker, opposite the George Inn."

While the advertising dodge is carried yet further in a circular issued by Dr. Burgess, Southsea, which adopts the pseudo-philanthropic cant of "limited means" preventing the moderately prosperous from obtaining good medical advice, and, proceeding upon a bold self-assumption of superiority, offers this self-styled superior advice at an extremely low figure by contract. The circular is addressed "To families of all classes, whose incomes do not exceed £150 per annum." Dr. Burgess styles himself the "Medical Mutual Association," and requests that subscriptions may be paid in advance—each adult, £1 1s. per annum; and children under fifteen years, 10s. 6d. per annum. It is obvious that such an arrangement is based upon false principles of social economy. It is a fundamental

error in any such "arrangement" to place interest directly at variance with duty, as it always must be where a small fixed sum is paid in advance for a great deal of probable work. Obviously, if no attendance is given, the £1 ls. is all profit, and the less work done, the nearer will be the prospect of something like decent remuneration under this tariff. But such an arrangement is not only economically defective; it is defective from a professional and moral point of view. It pretends to be an association, and it is no association. It pretends to be founded on philanthropy, and it is evidently founded on self-interest. It may be useful to notice this species of trash in our columns, and also to direct attention to the more contemptible and degrading efforts of the "museum" showmen and filthy pamphleteers whom the Medical Council permit to harbour amongst our ranks. We desist now from the task of exposure, but however little agreeable, it is one to which we shall incessantly address ourselves until the Augean stable of impurity be finally cleansed.

#### THE PHYSICAL PHENOMENA OF REVIVALS.

We felt it a duty lately to express the conviction, which is universal amongst medical practitioners, and which if felt in common with them by all who have any cognizance of the healthy or diseased workings of the human frame, that the violent physical "manifestations" which have accompanied the "revivals" in the north of Ireland, are morbid and injurious phenomena, which are comparable with similar conditions seen in hospitals where hysteria is prevalent, and witnessed in all female communities in crises of excitement and agitation. The insensibility, the sudden relaxation of muscular power, the prolonged convulsions, the foaming at the mouth, the rolling of the eyeballs, the fixed and glassy stare, the wild dreams, the incoherent ravings, which are viewed by the friends of these "revivals" as signs of regeneration that should be encouraged and propagated, are well known to be the indicia of hysterical and epileptiform seizures, consequent upon an overwrought condition of mind, and an enfeeblement of the body, due to prolonged abstinence and to great mental excitement. Without entering into any other view of the condition, it must be pronounced to be one of induced disease, mischievous and morbid in itself, and fraught with serious possible consequences to body and mind. That statement has met with great disfavor amongst a small portion of the Irish press, and THE LANCET has been warmly abused for taking such a view of this phenomena. This is so far a matter of congratulation that it has served to attract attention to it in quarters where it was else little likely to reach. We had no intention of furnishing matter for pulpit oratory, but physical phenomena have been pressed so mischievously into the service of fanaticism, that we are glad to have afforded

arms to the eminent divines of Belfast, with which they are successfully combating a great evil. The Rev. W. M'Ilwaine, an eminent preacher of Belfast, in a lecture which he delivered last week, stated that he knew of seven persons, in the immediate vicinity, who were maniacs, through the influence of the movement. Two were paralytics, one of whom was not likely to survive.

#### INDIAN MEDICAL SUBORDINATES.

The grievances of the medical subordinates of the Indian Army are of long standing, and have often been expressed in the local journals of India; but it must be a strong voice which will reach across the ocean, and still vibrate so loudly in this kingdom as to arouse the attention of English officials. We willingly lend our aid to the exposition of some of their principal grievances, which have been recently set forth in a Calcutta journal—*The Englishman*. The economy of this department is thus arranged:—The apprentices have the lowest rank in the service; and the examination for that grade, which is preliminary to the rank of assistant-apothecary, includes merely rudimentary educational requirements. The age for admission is from fourteen to eighteen, according to the general orders. The apprentices have to pass a second examination for promotion to the post of assistant-apothecary. This is understood to include anatomy, surgery, and the various branches of pharmacy, with a slight *resume* of general medical objects. The examination of the assistant-apothecaries for promotion to the office of apothecary runs over similar ground, but it is of a more advanced order. Promotion can only occur on vacancy, however early or well the examination may have been past; consequently, many of the apprentices remain five, seven, or eight years unpromoted, and most meagrely paid. Recently, therefore, they have felt it as a great grievance to see a number of strangers admitted into the service with the rank of assistant apothecary, who never served as apprentice in it, in preference to the apprentices, of whom it is said that upwards of forty passed members await promotion. Undoubtedly, in periods of emergency, rules may be transgressed when necessary to secure the efficiency of the service, and it may be desirable, at a particular moment, to secure the aid of skilled civilians to whom adequate rank and pay must at once be offered; but it is precisely under such pressure that the subordinates of the service are apt to be overlooked, and rewarded for additional labor and exertions by being thrust lower in the scale. So soon as the heat of the crisis is passed, such injustice should be explained, if unavoidable, and forthwith suitably atoned. Other minor grievances we omit to state; but we call attention to the case of the medical subordinates of the Indian Army as deserving of consideration.

## THE THAMES.

The stench of the Thames will not suffer us to forget the danger and the inconvenience to which all London will continue to be exposed while the stream that washes the wall of this teeming city is no other than the steaming, seething *cloaca magna*. While we have been employed in prosecuting soap manufacturers and ruining dyers and tanners, and in making lime broth and other sanitary soups of our river, the engineers of France and Germany have conducted to a successful termination the great enterprise of which we have talked so long. A Paris letter says—

“The termination of the great conductor beneath the pavement of Paris is regarded as an immense success by the engineers connected with the enterprise. This gigantic drain is considered one of the wonders of modern engineering, and is destined, it appears, to form the great artery of a system of sewerage which has long been in contemplation both for the salubrity of the city and for economy at the same time. Two of these stupendous drains are to be constructed in a line parallel with the Seine, and to conduct the refuse waters of the city into a vast reservoir, whence they are to be disseminated as liquid manure over the most barren of the plains round Paris. The system adopted is that experimentalized at Berlin with such eminent success that the sandy plains in the midst of which that city is situated have been converted, within the space of a few years, into the richest meadow land in the whole of Northern Germany. The new system, which will come into action in October, is considered one of the greatest benefits conferred as yet upon the inhabitants of Paris by its very liberal municipality.”

## THE NEW BYE-LAWS OF THE ROYAL COLLEGE OF PHYSICIANS, LONDON.

## MEMBERS.

I. Licentiates of the College who shall have been admitted Licentiates before the 1st day of October, 1859, and Extra-Licentiates of the College who shall be admitted Licentiates of the College under the Bye-Laws enacted February, 16th, 1859, and Graduates in Medicine who shall be admitted Licentiates of the College before the 1st day of March, 1860, under the Bye-Laws enacted February, 16th, 1859, shall from and after the 1st day of October, 1859, be styled Members of the College, provided always that they have, since their admission as Licentiates, obeyed the Bye-Laws, and do engage henceforth to obey the Bye-Laws of the College.

II. The members of the College shall be alone eligible to the Fellowship. They shall have the use of the library and museum, subject to the regulations relating thereto, and shall be admitted to all lectures, and shall enjoy

such further privileges as may from time to time be defined by the Bye-Laws; but they shall not be entitled to any share in the Government, nor to attend or vote at General Meetings of the Corporation.

III. Any person not engaged in the practice of Pharmacy, who shall have satisfied the College touching his knowledge of Medical and general Science and Literature, and who shall comply with such regulations as are or shall be required by the Bye-Laws, may be proposed to the College to receive a licence to practise physic, as a Member of the College. The decision of the College shall be determined by ballot.

IV. Every candidate for a Member's licence shall furnish proof that he has attained the age of twenty-five years.

V. Every candidate for a Member's licence shall produce a testimonial from a Fellow or Member of the College, satisfactory to the Censor's Board, to the effect that, as regards moral character and conduct, he is a fit and proper person to be admitted a Member of the College.

VI. Every candidate for a Member's licence (except such as shall be admissible under the provisions of Chap. XIII., Sect. 15) shall produce proof of his having been engaged, during a period of five years, in the study of Medicine, at a medical school or schools, recognised by the College.

VII. Every candidate for a Member's licence, who has not taken a degree in Medicine at a University in the United Kingdom (except such as shall be admissible under the provisions of Chap. XIII., Sect. 15), shall produce evidence, satisfactory to the Censors' Board, of his having studied the following subjects:—Anatomy, with Dissections; Physiology; Chemistry, with Practical Chemistry; Materia Medica and Botany; Theory and Practice of Medicine; Morbid Anatomy; Principles of Surgery; Midwifery, and the Diseases of Women and Children; Forensic Medicine; of his having attended diligently during three years the Medical Practice, and during nine months the Surgical Practice, of an hospital containing at least 100 beds; and of his having served the office of Clinical Clerk during at least six months.

VIII. Every candidate for a Member's licence, who has prosecuted his studies abroad, whether in part or to the full extent required by the preceding regulations (except such as shall be admissible under the provisions of Chap. XIII., Sect. 15), shall nevertheless, bring proof of his having attended during the last twelve months, the Medical Practice of an hospital in the United Kingdom containing 100 beds.

IX. If the Censors' Board should doubt the sufficiency of the certificates and testimonials produced by any candidate, or of his fitness, in any respect, for admission to examination, they may submit the case to a General Meeting of the Fellows.

X. No candidate shall be admitted to examination who uses, for the sake of gain, any remedy which he keeps secret.

XI. No candidate shall be admitted to examination who is engaged in trade, or who practises Pharmacy, or makes any engagement with a chemist, or any other person, for the supply of medicine, from which profit is derived, or who practises Physic or Surgery in partnership, by deed or otherwise, so long as that partnership continues.

XII. Every candidate for a Member's licence (except in cases especially exempted) shall have given proof of his acquirements by written answers to questions placed before him, and shall have been examined *visà voce* at three separate meetings of the Censors' Board, and shall have been approved by the President and Censors, or by the major part of them, at each examination.

XIII. The examination shall be conducted as follows:—The candidate shall be examined in Physiology, in Pathology, and in Therapeutics, in three separate examinations, by written questions, as well as *visà voce*, before three meetings of the Censors' Board. In each of the examinations in writing, as well as at each of the *visà voce* examinations, he shall be required to translate into Latin or English a passage from a Greek medical work, and into English a passage from a Latin medical work; or he may, in lieu of translating the Greek passage, give proof of a competent knowledge of one or more of the Modern European languages. At, or in connection with, the second examination before the Censors' Board, the candidate's knowledge of Practical Medicine may be tested by requiring him to examine persons laboring under disease, and to describe morbid specimens. At the commencement of the first *visà voce* examination, the candidate shall, if required, declare in writing, at what university or schools he has studied general Literature and Science, and what honors have been conferred upon him, in regard to his knowledge of Literature, Science, or Medicine; and such declaration shall, if it seem fit, be recorded in the Annals of the College.

XIV. When the candidate for a Members' licence has already obtained the degree of Doctor or Bachelor in Medicine at a university in the United Kingdom, after a course of study and an examination, satisfactory to the Censors' Board, he shall be exempt from all parts of the examinations hereinbefore described, except such as relate to Pathology and Therapeutics.

XV. In case of any candidate who has attained the age of forty years, the rules laid down in Sections 6, 7, and 8, may be dispensed with. He shall, however, produce testimonials of moral character and conduct, and of general and professional acquirements.

The Censors' Board having examined and considered these testimonials, may, if they see fit, submit them to the Fellows at a general meeting, and it shall be determined by the votes

of the Fellows present, or of the majority of them, taken by ballot if required, whether the candidate shall be admitted to such examination as the Censors' Board may deem sufficient.

XVI. Any candidate not approved by the Censors' Board shall not, except by special permission of the College, be readmitted to examination, until after the lapse of a year.

XVII. Every candidate approved by the Censors' Board shall be proposed, at the next General Meeting of Fellows, as qualified to receive a licence to practice Physic as a Member of the College; and if the majority of the Fellows present shall consent (and votes being taken by ballot), he shall forthwith, on complying with the regulations prescribed by the Bye-Laws, receive a licence to practice Physic as a Member of the College.

#### RULES OF CONDUCT, AND PENAL BYE-LAWS RELATING TO MEMBERS.

I. Every Member of the College, in prescribing for a patient, shall write on his prescription the date thereof, the name of the patient, and the initial letters of his own name.

II. If two or more physicians, Fellows or Members of the College, be called in consultation, they shall confer together with the utmost forbearance, and no one of them shall prescribe, or even suggest, in the presence of the patient or the patient's attendants, any opinion as to what ought to be done, before the method of treatment has been determined by the consultation of himself and his colleagues; and the physician first called to a patient shall, unless he decline doing so, write the prescription for the medicines agreed upon, and shall sign the initials of the physician or physicians called in consultation, he placing his own initials the last. If any difference of opinion should arise, the greatest moderation and forbearance shall be observed, and the fact of such difference of opinion shall be communicated to the patient or the attendants, by the physician who was first in attendance, in order that it may distress the patient and his friends as little as possible.

III. No Member of the College shall accuse a Fellow or another Member of the College of ignorance of his art; or publicly, or before witnesses not lawful judges in the matter, stigmatize him with opprobrious terms; or officiously, or under color of a benevolent purpose, offer medical aid to, or prescribe for any patient whom he knows to be under the care of another legally qualified medical practitioner.

IV. No Member of the College shall use, for the sake of gain, any remedy which he keeps secret, or follow systematically any line of practice which may bring discredit on the College, or on the science of Medicine.

V. No Member of the College shall be engaged in trade, or shall practice Pharmacy, or make any engagement with a chemist, or any other



person, for the supply of medicines, from which profit is derived, or practice Physic or Surgery in partnership, by deed or otherwise.

VI. If it shall at any time hereafter appear, or be made known to the President and Censors, that any Member of the College has obtained admission to the College by fraud, false statement, or imposition, or has been guilty of any great crime or public immorality, or has acted in any respect in a dishonorable or unprofessional manner, or has violated any Bye-law, rule, or regulation of the College, the President and Censors may call the Member so offending before the Censors' Board, and having investigated the case, may admonish, or reprimand, or inflict a fine not exceeding £10, or if they deem the case of sufficient importance, may report the case to the College, and thereupon a majority of two-thirds of the Fellows present at the meeting of Fellows, which must be especially summoned for that purpose, may declare such Member to be no longer a Member of the College, and he shall forfeit all the rights and privileges which he does or may enjoy as a Member, and his name shall be expunged from the list of Members accordingly.

#### CONVICTION AND SENTENCE OF WATTERS AND EDWARDS FOR CONSPIRACY AND FRAUD.

CENTRAL CRIMINAL COURT.

JULY 7th, 1859.—(*Before the Recorder.*)

*John Nichol Watters and Claude Edwards*, 27, both described as surgeons, were indicted for obtaining money by false pretences, and also with conspiring to defraud divers persons.

Mr. F. H. Lewis prosecuted; Mr. J. Doyle and Mr. McDonnell defended.

The first case gone into against the prisoners was that of Miss Hanley, who stated that in consequence of an advertisement which she saw she went to Spring-gardens, to an establishment called the Ear Dispensary. On the door there was a brass plate with the name of Dr. Watters. The door was opened to her by a footman, and she first saw Edwards, who showed her in to Dr. Watters. She told him she had come to consult him about a deafness under which she labored. She at that time wore trumpets, and he, after looking at her ears, said that she would not want them after the next day, and that he had cured himself, and had that day seen sixty patients. She was to give him £10. She paid £3, for which Edwards gave her a receipt. She said to Edwards that if it did not cure her she should call again; and he said, "If Dr. Watters says it will cure you, it will." They gave her some lotion, but it did her no good. She afterwards called three times, but did not see Watters. He said he would send, but did not. They gave her some more medicine, and wanted her to give 30s., but she would not. She saw a dark

man that time. At last she again saw Dr. Watters, and he said he would send her some more medicine, but he did not, and she sent him a lawyer's letter.

Several other witnesses were called, and proved that they had been defrauded by the prisoners in a similar way. To one of them the prisoner Edwards said, "Our specific for ear diseases is a Chinese remedy, which we discovered when over there." Another applicant he pressed to become a life subscriber to their infirmary.

A quantity of the stuff sold by the prisoners was produced in court, and sworn to be only soap and urine, in some instances colored with cochineal.

The evidence against the prisoners, which was gone into at great length, most clearly established the conspiracy, and the jury at once found them both *guilty*.

It was stated that Watters had above twenty years ago been charged with arson, and had suffered six months' imprisonment for making a false declaration respecting a surgeon's certificate.

The Recorder sentenced them each to eighteen months' imprisonment.

#### COURT OF QUEEN'S BENCH.

JULY 11th.

CHARGE OF MALTREATMENT AGAINST A SURGEON.  
NOBLE J. DAVENPORT.

This was an action to recover compensation in damages for the alleged maltreatment of the plaintiff's wife by the defendant, who practised as a surgeon. The defendant pleaded "Not guilty."

Mr. Lush, Q.C., and Mr. Hannon were counsel for the plaintiff; Mr. Tindal Atkinson and Mr. Murphy were for the defendant.

Mr. Lush, in stating the plaintiff's case, said that the plaintiff was a blacksmith carrying on business at Abridge, in Essex, and the defendant was a surgeon, practising in the same village. On a Sunday morning in August, 1855, the plaintiff's wife (who is near sixty years of age) and son were riding, in a cart, when the horse fell, and the wife met with an accident to her wrist. On her arrival home, the defendant was sent for, who, on examining the arm, came to the conclusion that it was broken about three inches from the elbow, (although in reality it was not so, the carpal bones only having been dislocated,) and that something was the matter with the wrist also. The defendant, on seeing the injury, immediately put the arm between two splints, bandaged it tightly, left some lotion, and went away. The defendant called from day to day. He continued the arm in bandages, using bran poultices, gin-and-water and vinegar lotions, fomentations, &c.; but nothing was done to the wrist. The plaintiff's wife continued to suffer extreme pain, and to get worse daily. About the middle of September the plaintiff

suggested that other advice should be called in. The defendant about that time had said that he thought the arm would have to come off, and Dr. Thomas was sent for, who, receiving the defendant's statement of the nature of the injury as correct, expressed an opinion that the plaintiff's wife would soon get better. About a week afterwards the plaintiff suggested that Mr. Turner should be sent for, but the defendant objected, alleging it was of no use to call in such a boy as that, and recommending Dr. Bowers. That gentleman came accordingly, and saw the plaintiff's wife, but he did not examine the arm, receiving as accurate the defendant's statement. Dr. Bowers advised leeches, &c., and went away. Throughout September and October the patient continued to get worse, and on Oct. 30th the plaintiff informed defendant that it was useless for him to continue any longer, and sent for Dr. Bowers, who accordingly attended her. He then examined the arm, and on taking off the splints he found the arm had never been broken, but the wrist dislocated, and, as it had not been set at the proper time, it was impossible to do so. The fingers had got stiff and the wrist cramped from the use of tight bandages and the want of setting, and as the patient continued to get worse, in December Mr. Turner was called in, when that gentleman and Dr. Bowers continued their attendance upon her. They then found the case was hopeless, and the patient was suffering extreme agony. At that time the wrist had become fixed, and the fingers so stiff that one of them cracked in trying to straighten it. Her suffering was so intense that it affected the nervous system materially, and a most lamentable result had followed, but whether from the neglect of treatment or not it was impossible to say. The poor woman was unable to get any sleep for fourteen days and nights, and at last, as predicted, sleep came upon her, and she awoke a maniac. She is now in a lunatic asylum, with no hope of her recovery. The action was therefore brought to recover compensation in damages for the alleged maltreatment of the injury to the wrist.

The learned counsel then called several witnesses in support of the above facts. The defendant had summoned the plaintiff to the county court for £6 odd, the amount of his charges, but he failed to recover.

After hearing the evidence for the plaintiff,

Mr. Atkinson submitted that the plaintiff had made out no case for the jury, the plaintiff's medical evidence having proved that there was no dislocation of the wrist.

Evidence was then given on the part of the defendant to show that the wrist was not dislocated, and that only one of the bones was fractured, and that his treatment was right and proper.

The jury ultimately rendered a verdict for the defendant.

## A MODEL HERBALIST.

### EFFICIENCY OF THE NEW MEDICAL ACT IN SUPPRESSING QUACKERY.

The Southampton borough magistrates, sitting at the Guildhall, on the 2nd inst., were engaged for some time in hearing a charge against Ambrose Lloyd, a herbalist living in Canal-walk, for having wilfully and falsely pretended to Charlotte Goldsworthy that he was a practitioner in medicine.

The summons was taken out by Dr. Pardey, of Orchard-terrace, under the 14th section of the Medical Act, in consequence of a person calling on him when in the last stage of consumption, and having been for some time under the treatment of the self-styled "doctor," who told him he was not consumptive.

Dr. Charles Pardey said: On the 25th of May, Robert Goldsworthy was brought to my house by his wife. On looking at him, I saw that he was dying, and directed his wife to take him home, inquiring why it was he had been allowed to get into such an advanced state of disease without medical advice. She stated that he had been, up to the Monday previous, under the care of a person calling himself "Dr. Lloyd," who had told her on Monday that he was not consumptive. As the man was undoubtedly dying of consumption, I felt it right to make inquiry, and the day after the man's death, which happened on Friday morning, I called at Lloyd's establishment in Canal-walk, where I saw a number of bills corresponding to this (produced) lying on the counter. I took one of them, with the permission of the young woman in the shop, who stated that that was not Dr. Lloyd's best bill, as the other had more cures in it. I replied that my object was not to be cured, but as he called himself Dr. Lloyd, I wished to see his diploma. Lloyd was not present then. On the 29th, I received the following letter, which Mr. Lloyd acknowledged having written, when I called on Monday:—

"Southampton, May 28th. 1889.

"Mr. Pardey,—Sir, I Have just sent you this to informe you that this is my advertisement and I am not aware that I am doing anything wrong in so doing as for that paper you took from my shop has nothing to do with as it is not circulated in the town it is brokeing up for od uses the young man that wrote it can be witness to the mistake any day and likewise the printer as was not aware of the mistake until they came home in print the printer will remember the remark I past at the time the Bills is no yous to me now though that the bill never be mad any use of it is 12 months ago those bills wear printed I never Called my self Docter in my Life my proffession is an herbelest and to retail drugs by lisenase as I have them to show.

"I Remain, A. Lloyd."

## AN ACTION AGAINST A DENTIST.

In the Bail Court on the 6th instant an action (Derrick v. Croucher) for damages for injury through alleged want of skill, was tried. The plaintiff is a dock labourer, aged thirty-five; the defendant is a tooth-extractor, &c., in Ratcliff Highway. On the 2nd of February plaintiff called on defendant, who examined his mouth, and saw that a decayed tooth needed extraction from the upper jaw on the right side. Plaintiff was seated, and the defendant stood behind him and pulled six or seven times, but the tooth did not come out. At the fourth pull something seemed to snap, but the last pull gave the most pain, and plaintiff was rendered unable to shut his mouth from what he then thought was the projection of a tooth. Defendant then said, "Dear me, this is dangerous. I can't see to pull it out to-night; I shan't make any charge. Come to-morrow morning at ten o'clock." Witness went home, faint from loss of blood, and then went to Mr. Crutcher, another dentist, near defendant, who told him his jaw was broken; and with a lancet he cut away the gum and took out two teeth (one sound, the other not) and part of the jaw. Plaintiff was for a month unable to do any work, and he had to live on soft food. Mr. Crutcher, Dr. Edwards, Mr. McCann, and Mr. Hayward, dentist, gave their opinion that the injury was caused by the defendant's want of skill. The defendant, Croucher, deposed that he had practised as a dentist for thirty years, and the witness Crutcher had been his assistant for seven years, and had set up in business close to him. After some further evidence, Mr. Justice Hill left it to the jury to say whether a reasonable amount of care and skill as a dentist had been exercised. The jury returned a verdict for the plaintiff—damages, £10.

It does not appear that either of the operators was a member of any college of surgeons, which we have always continued to urge that all persons should be who presume to operate upon the teeth. A contemporary has the following pertinent remarks on the subject:—

"To have your teeth knocked down your throat in a fight is bad enough; to have a set of false teeth put in is worse; to have a tooth, sound or decayed, extracted is agony; but to have one of your favourite incisors wrenched from your mouth by a bungling and ignorant practitioner is sorrow and confusion. When you happen to have a jaw broken into the bargain, the climax of pain is reached."

SUCCESSFUL PROSECUTION OF A DENTIST  
FOR ASSUMING THE TITLE OF  
"SURGEON."

LAMBETH POLICE COURT.

IN RE NUNN.

On the 20th ult. Dr. Ladd, the Honorary Secretary of the London Medical Registration Association, together with Mr. Bowen May, Solicitor,

attended before Mr. Secken at the above Court to prosecute an unqualified person, named Samuel Nunn, residing at No. 8, Mount-terrace, Lambeth, for practising and assuming the title of "surgeon," in contravention of the new Medical Act.

Mr. Bowen May, in opening the proceedings, stated that this information was of great importance, as carrying out the preamble of the new Medical Act, and was instituted by the London Medical Registration Association, an Association which had rendered great service to the public and the profession in prosecuting and putting to flight the notorious Bennet gang, as well as other infamous impostors. The object of the present proceedings was to carry out that clause in the Medical Act which rendered it a criminal offence for any unqualified medical practitioner to assume the title of, or practise as, surgeon, &c., for which offence he was liable to a penalty not exceeding £20. The defendant, Mr. Samuel Nunn, is a druggist, carrying on his business at No. 8, Mount-terrace, Lambeth, where it would be shown that he (the defendant) had violated the law, both by assuming the title and also by practising as surgeon. The defendant had painted over his door the word "SURGEON," followed by a comma, then his own name, Nunn, followed by "DENTIST," on a large square of glass in the shop window, "SURGEONS' prescriptions accurately prepared." All these letters were what he should term "giant" letters, with the exception of the "s" and the apostrophe, which followed the word surgeon; these being so small he should term them *homœopathic*. This was done with a view of misleading the public, and making them believe he was qualified to act as a surgeon, whereas he knew nothing whatever of surgery. The taking a leg off a table was a very different thing from taking a leg off humanity. He would call before his worship Dr. Ladd, the indefatigable Honorary Secretary to the London Medical Registration Association, who would prove the assumption of the title by the defendant. He would also produce the person upon whose arm the defendant had practised, and also a medical gentleman of eminence, who would speak as to the little surgical skill the defendant possessed.

Dr. Theodore E. Ladd stated that he was Hon. Secretary to the London Medical Registration Association. He had examined the Medical Register, and no such name as Samuel Nunn appeared. (It was here objected that the Medical Register was not evidence in a printed form. Mr. Bowen May drew the magistrate's attention to section 27 of the Act, which laid down that "a copy of the Medical Register for the time being . . . shall be evidence in all Courts, and before all Justices of the Peace, &c.")

Dr. Ladd (in continuation) stated that a dentist had no right to prefix the word "surgeon," unless he was a member of some College of Surgeons. He had seen the writing on the shop

of defendant : it ran, over the shop window, "8, Surgeon," in large letters, followed by a comma ; then "Nunn, dentist," on shop window, "Surgeon" in conspicuous letters, followed by an apostrophe and "s"—and "Prescriptions accurately prepared ;" on the side door a brass plate, "Mr. Nunn, Dentist." He never saw the words

"Surgeons' Prescriptions accurately prepared" written up anywhere else. The usual mode chemists adopt is to state, "Physicians' Prescriptions accurately prepared."

Cross-examined by defendant's Solicitor.—I am a M. D. ; I do not know how long the defendant had kept this shop ; I cannot say if it was three years ; the words on the shop front were the same before the Act passed ; no respectable persons call themselves Surgeon-Dentists unless they have the proper qualification.

John Owens, carpenter, 24, Pleasant row, deposed that about two weeks since he met with an accident, and hurt his arm. He called on Mr. Nunn, seeing the word "Surgeon" over the shop window. He saw the defendant, who said he was Mr. Nunn. He did not say he was a surgeon. He examined his arm, and made him up a bottle of liniment, which he desired he would rub in. He would not have gone to the defendant if he had known that he was not a qualified surgeon. He paid one shilling for the liniment and advice.

William Edward Humble, M. D. Lond. (registered), stated that dentists were not entitled to the prefix "surgeon" unless they were qualified. The defendant had formerly been his assistant. He had no qualification to practise as a surgeon, nor had he any knowledge of surgery. Defendant left him about six years ago, at which time he took the chemist's shop.

The Solicitor for the defence urged upon the magistrate that his client had carried on his business for some time with the same writing on the shop, and as he was a surgeon-dentist, he did not think he had infringed upon the Act of Parliament, and was not therefore liable to the penalties under the Act.

Mr. Secker said he was of opinion that the defendant had been holding himself out as a surgeon, and it was quite clear that he had brought himself under the provisions of a very useful Act. He had been, he would not say falsely representing himself, but had untruly been ; pretending that he was a surgeon, having his name over the door with the direct title of surgeon, and passing himself as duly registered, whereas his name was not on the Register previous to the 1st of July ; and if he had registered since that time, the onus lay upon him to prove it, which he had not done. Assuming him to be a surgeon-dentist (but of which there was no evidence on behalf of defendant), he could not see how that by operating on a man's arm he could be cured of the toothache. By Section 40 of the Medical Act it is enacted that "Any person who shall wilfully and falsely pretend to be, or take or use the name or title

of, physician, surgeon, or any name, title, addition, or description implying that he is registered under this Act, &c., shall, upon a summary conviction for any such offence, pay a sum not exceeding £20." But as the case was the first of the kind that had been proceeded with, and as he presumed it would be the first of such convictions under the Statute, the circumstances were likely to create an unenviable notoriety, he should therefore convict the defendant in the mitigated penalty of 40s., with the costs. At the same time, he would advise the defendant to take down the writing from his shop, and not mislead the public ; for if brought again before him, as the defendant probably would be if he continued using the same words, he would find that he would not be dealt with so leniently.

#### TRIAL AND CONVICTION OF SMETHURST.

The trial of Thomas Smethurst, for wilful murder, will mark an era in the criminal jurisprudence of this country. Under any circumstances the evidence must have possessed extreme interest for the members of the medical profession. But the incidents of the case, as they have been successively evolved, tend to throw an enormous weight of responsibility on the whole medical body. *The Times*, that great organ of public opinion, has declared the moral evidence of the guilt of the prisoner to be uncertain ; and that although carrying with it the gravest suspicion of guilt, it is not absolutely inconsistent with the innocence of the convict. Strictly medical evidence is pronounced to have taken a position in this inquiry which it had never previously reached. The dictum of *The Times* will be assented to by all reasonable men ; it, however, makes it necessary that the medical evidence should be sifted with the utmost possible stringency. The condemned man had been undoubtedly, a medical practitioner. But many years ago he left legitimate practice to adopt the hydropathic quackery, and carried on the cold-water treatment at Moor-park, near Farnham, in Surrey. The most astute and profound professional knowledge has been assigned to him ; but there is nothing to show that his acquirements are of even the average standard. Of his infamous conduct in regard to Miss Bankes ; the execution of the will, and the crime of bigamy ; there can be no question. The point on which the public require to be satisfied is as to whether the medical and chemical evidence adduced at the trial is sufficient to prove that he committed murder, and that he deserves the doom to which he has been sentenced.

The evidence of Drs. Todd, Julius, and Bird, who attended the patient during life, with that of Dr. Alfred Taylor, Dr. Metcalfe Babington, Dr. Odling, Prof. Brande, Mr. Barwell, and Mr. Bowerbank, who gave their opinions from what they had heard, or had learnt from the post-mortem examination, all appeared to show con-

clusively that the symptoms of the patient during life—the refusal of the disease to yield to ordinary or extraordinary remedies, and its termination, marked it as standing out from the category of ordinary maladies, and as being clearly referable to the continuous action of some slow irritant poison. The pathological appearances were such as might have been consistent with poisoning, but they were sufficiently similar to those met with in natural disease, to render this part of the evidence of comparatively little value.

The chemical testimony is a grave subject for discussion. As a result, the poison as discovered by Dr. Taylor consisted of a very minute quantity of antimony in some blood said to have been taken from the heart, traces of antimony in the small and large intestines, and a small quantity of arsenic detected in one of a considerable number of alvine evacuations. Neither arsenic nor antimony could be discovered in any of the tissues of the body; and no traces of poison were found upon the premises, or in the possession of the condemned person. It is true that he was arrested before the death of Miss Bankes, and set at large upon his own recognizances, so that he had partial opportunities for destroying every evidence of this kind. The great fact, however, remains, that in a subject believed to have been dosed with one, if not two, metallic poisons, persistently and continuously for several weeks, no traces of poison could be found in any tissue, organ, or component of the body after death, by the most subtle analysis which Dr. Taylor and his assistant could institute.

The history of "bottle 21," as it is called, is an important matter with reference to the present trial, and will always form a remarkable episode in the history of Toxicology. When Smethurst was first arrested, thirty or forty bottles, containing the remains of medicines and other matters were seized, and transferred to Dr. Taylor's custody for analysis. No poison was found in any bottle, save the one which has become the subject of so much discussion. Dr. Taylor deposed at the inquest to the purity of his tests, and to the fact of finding arsenic in the bottle No. 21. He detected the arsenic in one of his experiments on this bottle, but failed to find it in other experiments. The bottle was found to contain a solution of chlorate of potash, and Dr. Taylor arrived at the conclusion that the chlorate of potash interfered with the action of his tests. Still, as he had found it once, he swore unhesitatingly to its existence, and supposed that the prisoner had, by some diabolical ingenuity, hit upon a medium for administering arsenic which defied detection, or rendered it extremely difficult. We believe the finding of arsenic was sworn to by Dr. Taylor at the inquest, *before* the charge of arsenical or irritant poisoning took a definite shape in the evidence of Drs. Julius and Bird. No doubt an enormous prejudice was raised against the prisoner by the cir-

cumstances we have sketched. The finding of the arsenic was deemed a certainty; the chlorate of potash, which is one of the most innocent materials for lotions and saline draughts to be met with in the Pharmacopœia, was stigmatized as something horrible, and Smethurst was compared to the Borgias, for acuteness and fiendish cunning as a poisoner. After the inquest, which was the virtual condemnation of Smethurst, Dr. Taylor repeated his fruitless experiments on the solution of chlorate of potash to such an extent as apparently to cause some misgiving in his own mind. He applied to Dr. Olding, who does not seem to have solved the difficulty. On appealing to Mr. Brande, this veteran chemist suggested that possibly the copper-wire gauze used by Dr. Taylor might have contained arsenic; that the chlorine of the chlorate separated the arsenic from the copper, and that the poison was thus yielded to Dr. Taylor's test. Such was found to be the actual fact when the copper used for testing was in turn tested. The instrument employed for detection had itself furnished the poison! With most praiseworthy candor, Dr. Taylor immediately communicated the proof of his fallibility to the legal advisers of the accused. It was, however, difficult, or impossible, to remove the prejudice which had been created against him. The chief chemical facts which now remained to tell directly against the prisoner, were the small quantities of arsenic and antimony found in one of the stools and in a portion of the blood. To meet this, it was shown that, in testing for arsenic in the stools, Dr. Taylor had used the same kind of wire as that which supplied poison to the solution of chlorate of potash; that the patient had been taking bismuth and grey powder; and that specimens of bismuth and grey powder purchased of the wholesale druggists who supplied Drs. Julius and Bird contained minute quantities of arsenic and antimony. This was the evidence of Drs. Rodgers and Thudicum; though it was deposed that these drugs as found in the surgery of Drs. Julius and Bird were free from any such impurities. As regards the exact time at which Dr. Taylor discovered his mistake, we find that it occurred after the period first fixed for the trial in May. It is a singular fact that it was the counsel for the prosecution who applied for the postponement of the trial, on the ground that the particulars respecting the property had not been investigated. The counsel for the prisoner, at the instigation of the prisoner himself, opposed this; but the trial was ultimately postponed. In the intervals which now elapsed, the discovery respecting the innocent nature of bottle 21 was made and published.

We consider that this is an impartial outline of the chemical evidence produced at this celebrated trial. We believe that a strong feeling will be almost universal in the profession, that to execute a man upon such testimony would be perfectly monstrous. If such were to be the case,

an infinitesimal toxicology might, in the present day, become almost as dangerous as the accusations of witchcraft in the fifteenth century. It amounts, amid such conflicting facts, to no more than suspicion. It cannot pretend to furnish a definite and positive proof. The possible consequences are, and have been, frightful to contemplate. But for the accident of repeating his tests, and the suspicion thrown out by Mr. Brande, Dr. Taylor would doubtless, and with a clear conscience, have re-sworn at the trial what he deposed to at the inquest, and the wretched prisoner would have hung at the gallows. As it is, without the production of more positive evidence, we hold that it is well nigh impossible that the last sentence of the law can be carried into effect.

With the evidence of Drs. Todd, Julius, and Bird, and the gentlemen who conducted the post mortem examination, our readers are no doubt-familiar. It is greatly to be regretted that in a single visit, of a few minutes' duration only, late at night, Dr. Todd should have given so positive an opinion respecting the administration of poison. There were the vomiting, purging, fever, quick pulse, exhaustion and death. The post-mortem appearances showed ulceration of the large and small intestines, and congestion of the stomach; but there was no positive pathological appearances which might not have been attributed to natural disease: we mean that there were no certain and irrefragable pathological indications of poisoning.

While doubts are thus accumulating about this *Cause Célèbre*, a new point pressed forwards for consideration. It came out that Miss Bankes was at the time of her death about two months gone with child. Dr. Tyler Smith was called to give evidence as to the bearing of pregnancy upon this remarkable case. The fact of pregnancy was not known until the post-mortem examination took place; but Dr. Smith gave it as his opinion that the pregnancy ought to have been detected during life, and that its detection would materially have modified the treatment. It seemed that Miss Bankes was in her forty third year—that the catamenia had appeared regularly, having been present the week after the commencement of her illness, and the week before her death. It is well known that the catamenia are present in some subjects during the first months of pregnancy, but the attendants do not seem to have allowed for these exceptions. Dr. Tyler Smith mentioned four cases in which he had been consulted, in which vomiting had continued during pregnancy to such a degree as to cause death. He further referred to cases in which diarrhoea, either alone or in combination with vomiting, was a prominent symptom. As regards the similarity of the symptoms of the vomiting of pregnancy to irritant poisoning, Dr. Smith detailed a case of fatal vomiting in pregnancy in which poisoning had actually been suspected, and in which the friends of the patient had had the evacuations

tested by a chemist. Dr. Todd had described a peculiar physiognomy as being very remarkable in the case of Miss Bankes; and Dr. Tyler Smith showed that Paul Dubois, who had seen twenty cases of death from the vomiting of pregnancy in thirteen years, had referred to a peculiarity of expression as denoting a state of extreme danger in this kind of vomiting, calling for the induction of abortion. Dr. Tyler Smith was the only witness, either for the defence or the prosecution, who had seen a fatal case of vomiting from natural causes during pregnancy; and his evidence will carry great weight on such a subject with all unprejudiced persons. Cases of the kind are found in almost every systematic work on midwifery. It is greatly to be regretted that the fact of the pregnancy escaped observation during the lifetime of the sufferer. Had that condition been taken into account, this part of the mystery would, in all probability, have been cleared up.

The doubt and suspicion attaching to Smethurst are so great that no one ventures to pronounce him innocent. At the same time, the mistakes and contradictions in the chemical portions of the trial—the non-discovery of pregnancy, with other omissions during life—and the possibility that the death of Miss Bankes may have arisen from natural causes, all concur to render the certainty of the guilt of the condemned man anything but unequivocal. Doubt, increasing doubt, of so serious a character attaches to the case, that the execution of Smethurst on the present conviction, and under his existing sentence, without further revelations, is an impossibility. No Secretary of State would undertake the terrible responsibility of such an act.

### Miscellaneous Correspondence.

"Audi alteram partem."

ON THE USE OF ARSENICAL AND LEAD PIGMENTS IN THE COLORATION OF PAPER HANGINGS, AND OTHER ARTICLES OF FURNITURE, DRESS, AND ORNAMENT.

[LETTER FROM DR. HASSELL.]

To the Editor of THE LANCET.

Sir—The subject of green paper-hangings is one of considerable importance, both in a sanitary and manufacturing point of view; and although much has been said and written, clear and correct notions regarding it are by no means generally entertained. Some writers have treated of green papers as though the coloring matter employed always consisted of arsenite of copper, whereas the fact is, as I have already pointed out to some extent in a former communication, that in a very large proportion of the green papers in use the color consists of a mixture of chromate of lead and Prussian blue; this mixture is nearly always employed in the case

of the dark-green flock papers. Now, chromate of lead is as poisonous a substance as arsenite of copper; and if the papers prepared with the one pigment are rightly condemned, so ought those to be that are colored with the other. Further, these same pigments are almost universally employed in the dyeing of green carpets, curtains, table and chair covers, silks, muslins, and a variety of other articles of furniture, dress, and ornament; and if the papers colored with them are to be condemned, so in general should the articles above enumerated, as well as many others; for the objections urged against the green papers, apply for the most part equally to these.

In the room in which I am now writing there is a green Turkey carpet, a green velvet sofa, several green morocco chairs, and three green table-covers. Now, if the views of those who have so strongly cautioned the public against the use of green papers be correct, and if they are really injurious, in the first place, I ought to be very ill, suffering from some of the effects of either lead or arsenical poisoning; and secondly, I ought (which would be a serious sacrifice) to get rid forthwith of the greater part of the furniture contained in the room which I habitually occupy.

Again, since nearly all *yellow* worsted and cotton goods are dyed with chromate of lead, these ought likewise to be discarded.

It thus becomes evident that the subject possesses extensive bearings, sanitary and commercial; and it is therefore of extreme importance that the public, on the one hand, should know whether these pigments are injurious, and, on the other, that the manufacturer should likewise be thoroughly well informed on this point.

I will now make a few remarks, which will serve to show whether, and under what circumstances, these green papers are injurious, and these remarks will apply equally to the papers colored with either the arsenical or lead pigment.

All green papers may be divided into the unsized, sized, and flock. In the first, the coloring matter is spread over the surface of the paper, and is not secured by a layer of varnish or size; in the second, the attachment of the pigment is ensured by this coating; while the flock papers are thus made—the flock consists of a layer of dyed wool, the coloring matter being enclosed in the hairs of the wool forming the flock.

Now, danger to health from the use of green papers can only arise in two ways, either by the volatilization of the poisonous pigments contained in them, or by their mechanical detachment and dispersion through the air of the room, when they fall on the eyes, or become inhaled. No apprehension need be entertained as to the first-named cause, for chromate of lead and arsenite of copper are not volatilized at ordinary temperatures. There remains, then, for consideration only the danger arising from the detachment of the poisons. It is obvious that this is great-

est in the case of the unsized, and least in the flock papers—those, in fact, the use of which has of late been so strongly denounced—least in those, because the coloring matters are enclosed in the hairs of the wool, and for the further reason that these hairs are so strong and elastic that they are not easily broken and detached. In fact, these flock papers resemble precisely woollen and cotton goods dyed green or yellow; and if their use is to be condemned, then, as I have before remarked, so ought that of most other green and other articles of wearing apparel and furniture—a somewhat serious conclusion at which to arrive.

These facts are sufficient to show that the danger arising from the use of green paper-hangings is not very great, and that it is almost confined to the unsized or unglazed papers; they at the same time prove how desirable it is that the use of arsenite of copper and chromate of lead as pigmentary substances should, as far as possible, be dispensed with, and this might be readily done in most cases by the substitution of other and unobjectionable colors.

In my Reports on the Adulteration of Food, I showed that chromate of lead and arsenite of copper were frequently employed to color sugar confectionery, as well as other articles. Such a practice is fraught with danger, and cannot be too strongly denounced.

I am induced to make these remarks, because I believe, first, that greater alarm than is needed is entertained by the public as to the use of these green papers; and second, that the interests of manufacturers are greatly prejudiced thereby. While it is the duty of the sanitarian to guard with jealous eye the public health, he should be most careful that in doing so he does not unnecessarily interfere with trade and manufactures.

I remain, Sir, your obedient servant,  
ARTHUR HILL HASSALL, M.D.

Wimpole-street, 1859.

## ON THE ADMINISTRATION OF CHLOROFORM.

*To the Editor of THE LANCET.*

Sir,—I trust you will allow me space in your columns for a few remarks upon an important subject—namely, the right method of administering chloroform. The views which I at present wish to express do not pretend to any originality, for they were distinctly proclaimed by Dr Snow, and they have been most ably defended in the editorial articles of *THE LANCET*. But it seems to me that truths of such grave moment, which yet are treated with such general neglect by the profession, cannot be too frequently forced upon its attention by those whose experience gives them a right to speak with confidence.

The public generally, and even the profession to some extent, continue to view chloroform with suspicion and dread, and are apt to be needlessly alarmed by the occasional occurrence of a fatal result from its use. Inexperienced persons find



a great difficulty in believing that the general use of this anæsthetic is safe or justifiable; and their fears would doubtless be just, were it not for the fact that these unfortunate mishaps are to be accounted for, and might, with proper precautions, be always avoided.

Let me earnestly call the attention of your readers to the fact that great negligence as to the method of exhibiting this useful but dangerous anæsthetic generally prevails. In many, perhaps the majority of cases, chloroform is given in unknown quantities, and diluted with an uncertain quantity of atmospheric air. A portion—often, I fear, reckoned by guesswork—is poured upon a double or quadruple fold of lint, and held in more or less close proximity to the patient's mouth; and according to this proximity, which is likely to vary unless the administrator's hand be very steady,—according also to the accidental temperature of the room at the moment, and the force and rapidity of the respirations, an atmosphere which may vary from four to six or seven per cent. or even more, is inhaled. Now there is nothing more certain than that an atmosphere containing more than five per cent. of chloroform vapour is unsafe, and that if a much higher per-centage be used, paralysis of the heart is an imminent danger.

Doubtless, there are operators so skilful, and so well used to the administration of the anæsthetic, that, in their hands, even when given on lint, the chloroform is not allowed to saturate the inspired air to a dangerous extent. But even they are liable to an accident from a few moments' forgetfulness, or diversion of their thoughts to the surgical proceedings which are going on. And, with regard to those who are not much accustomed to give chloroform, and have consequently not acquired that practical facility and experience which would enable them to dispense with theories, it may be safely affirmed that the administration of a powerful anæsthetic by such persons, in so rude and unscientific a manner is highly dangerous and reprehensible.

The profession have now in their hands two instruments, at least which fulfil, with very fair accuracy, the desirable purpose of securing a uniform and safe dilution of the vapour with atmospheric air. This being the case, it seems to me that it will be quite inexcusable if, in future, any persons be permitted to exhibit chloroform with so imperfect and unsatisfactory an apparatus as a piece of lint or a handkerchief. We are not accustomed to use other powerful narcotics by guesswork, and in chance doses; and I cannot see why we should follow such a plan with chloroform—one of the most powerful and dangerous medicines of this class. Except with children, to whom an apparatus cannot usually be adapted, there seems no excuse for not using an inhaler; and these latter, fortunately, bear chloroform much better than adults.

I am aware that the practice which I have recommended is in opposition to that of many eminent members of the profession, more partic-

ularly in Scotland, who continue to sanction the administration of the anæsthetic by the ruder methods here condemned; but while professing all respect for their authority, I would now earnestly appeal to them, and urge them to a reconsideration of the matter with the aids afforded us by recent melancholy experience, both in Paris and in London.

I am, Sir, your obedient servant,

FRANCIS ED. ANSTIE, M.D.

Onslow-Square, 1859.

## ON A CASE OF ENCEPHALOCLE.

To the Editor of THE LANCET.

Sir,—Having within the last twelve months seen two cases of encephalocle reported in THE LANCET, it has occurred to me that a delineation of the peculiar features of the malformation might prove acceptable to many of your readers.



Length of tumor, 8 in. : circumference at the largest part, 18 in. It contained 2½ oz. of serum.

The case from which I took the accompanying sketch fell under my notice eight years since, and was attended with very much the same train of symptoms as that of Mr. J. B. Thompson, reported in THE LANCET; \* therefore I will not append the notes I took at the time, as they would be little more than a repetition of what is so well given by him.

I am, Sir, your obedient servant,

EDMUND YOUNG, M.R.C.S.

Steyning, Sussex, 1859.

ON THE TREATMENT OF CHOLERA.

To the Editor of THE LANCET.

Sir,—Should you think the following observations on cholera worth a place in your periodical, they are at your service. I may observe that, after much consideration and considerable experience, I have formed a plan of treatment for cases of so-called cholera, which the more I try it the more I am satisfied with it.

Without essaying to penetrate into the prime cause of the disease, concerning which opinions may be various, I may remark that, as a very general rule, 'profuse watery diarrhoea' is the substantial exponent of the collapse which in this disease often becomes mortal. Stop this diarrhoea in time, and you prevent or moderate the collapse; or, "collapse" existing, stop the diarrhoea, and you prevent the sinking from becoming deeper, and favor reaction. Depression from cholera poison, from suppressed biliary and urinary secretion, may also increase the collapse.

Regarding the disease under these points of view, and bearing in mind that a certain number of cases of collapse will recover if left to the unaided powers of Nature, we may consider what remedies will afford the best chance to a patient suffering with collapse, cramps, suppressions, &c., resulting from profuse aqueous, alvine, and gastric discharges, diarrhoea and vomiting—i.e., cholera.

It is not likely that a patient in such a condition would be benefited by the exhibition of any medicines in qualities or quantities which would be deleterious to a person in health, or which would add to the depression of the patient. The administration of large or too frequent doses of opium, large or too frequent doses of calomel, acetate of lead, or sulphuric acid, appear to me to be exposed to this objection.

What, then, are we to do if we cannot give these kinds of medicine rapidly, when time is so valuable that the loss of an hour may turn the scale against the patient? The reply I made to myself was, "find a remedy which is potent but not poisonous, which may be used freely without poisoning your patient, or lowering by poisonous doses." Does such a remedy or plan of treatment exist? I venture to say that it does in the following method, which I think is both reasonable as to its therapeutic rationale, and as a consequence remarkable as to its results. It was only a short time since that I had the pleasure and surprise of witnessing a patient's recovery who was pulseless, shrivelled, aphonic, &c., with urinary suppression, from copious watery diarrhoea.

When sent for, then, to a patient suffering with cholera in a severe form, I prescribe two grains of calomel and one grain of opium, every four hours; and the decoction of hæmatogylon, two ounces (P.D.), every quarter, half, or every hour; and, in lighter cases, every two, three, or four hours. If collapse is very severe, a table-

spoonful of brandy, or a proper dose of any ethereal preparation with each dose of the hæmatogylon, the continuance of the stimulants being regulated by the persistence of the collapse. Ice for thirst, sinapisms to the abdomen, frictions, hot bran, or turpentine applications for cramps, complete this plan, in which I have sedulously avoided any drug or chemical which can exercise any depressing effect on the vital powers, or which might possibly extinguish a vital flame, already near expiring. I may say, that I have learnt to feel in this treatment a confidence which I have never felt in any other plan, and I have tried many.

I am, Sir, your obedient servant,

EDWIN CHABOT, M.R.C.S.

Addington-place, Camberwell, Aug. 1859.

THE MARSHALL HALL METHOD OF TREATMENT OF ASPHYXIA.

To the Editor of THE LANCET.

Sir,—A few weeks since, I was called to attend a lady in labor with her first child. The case went on very favorably, but upon the child being expelled, it was to all appearance dead. As it had not respired, I at once divided the cord, without losing any blood, as there was a certain amount of warmth in the child. I then commenced the process recommended by Dr. Marshall Hall, but for a long time did not receive the slightest encouragement, and was asked by the nurse to desist from any further attempts to restore animation, as she was quite sure it was dead. As, however, I had been successful in previous cases, I still persevered, and by holding it in a draught, and using gentle friction over the region of the lungs, I was in a short time rewarded by a gasp, which was very soon followed by another, and in the space of five minutes respiration was fully established. The child is now much smaller than when born, and does not appear to thrive, although every means has been used.

It is rather strange that in all cases in which I have used the Marshall Hall treatment, the children have died a few months after. Perhaps some of your readers may be able to explain why, and if such is generally the case.

I remain, Sir, your obedient servant,

W. M. WHITMARSH,

Regent street, Westminster,  
August, 1859.

ASSISTANT TO DR. PEARSE.

Obituary.

THOMAS M. WINTERBOTTOM, M.D.

Dr. Winterbottom expired at his residence at Weston, near South Shields, on the 8th inst., after about a month's confinement to bed from peritonitis and obstructed bowels. He was seized on the 12th ult., with acute symptoms, which threatened, if unrelieved, a speedily fatal issue. On the 14th the severity of the attack had some-

what abated under treatment, and by the next evening the imminent danger had passed over. He took nourishment more easily and more freely, but there still existed the affection in a chronic form, which was certain to undermine the little strength remaining, and prolong the bed of sickness to the bed of death. His illness was characterized by the utmost patience, resignation, and cheerfulness under suffering, even to the last. No murmur ever escaped his lips, and while the countenance sometimes betrayed the inward pain, all his expressions overflowed with gratitude, meekness, and contentment. "I am as well," he said one day, "as one can be who is about to take his last leap." On the 6th inst. it was obvious that the change so long impending was close at hand. Nothing worthy of the name of nourishment had been taken for twelve days. He was unable to speak, although quite conscious; prostration of strength was complete. A week previously he had observed, in his characteristic way, he had "nearly arrived;" he was "on the very point." The extraordinary and unexpected protraction of life, however, led him some days subsequently to remark, that he never remembered being "so out in his prognosis before." Certainly, his last illness was remarkable, in a strong degree, for the endurance of the *vis viva*, and by those only who were daily watching over him, can a just idea of his singular "tenacity of life," as the Doctor himself expressed it, be formed. On the morning of the 8th he died, as he had lived, a pattern of goodness and humility.

He was born in South Shields on the 26th of March, 1766, and was, therefore in his ninety-fourth year. He studied under the Edinburgh celebrities about 1790, graduated at Glasgow in 1792, and was, perhaps, the oldest graduate registered under the recent Medical Act. On completing his studies, he received the appointment of physician to the colony of Sierra Leone, which honorable post he held for about four years. On his return to his native town, he succeeded to the practice of his father, and for upwards of twenty years commanded not only an extensive and lucrative practice, but the affection and esteem of all his patients. He retired from practice with an ample fortune about thirty-seven years ago, and was succeeded by the late Mr. Eddowes. An accomplished scholar, intimately acquainted with the ancient, and most of the modern languages, in several of which he could converse fluently, he spent several hours a day in his study, as diligent and as earnest in the pursuit of knowledge, as if half a century had missed its mark upon him altogether. He made an annual tour to the Continent up to the year 1855, when advancing cataract affected his sight so materially as to prevent him going beyond England. He was a man of strong constitution, and had never been confined to bed by sickness since he left Sierra Leone, until his last illness. Meek, amiable, and benevolent in the strongest degree, few have reached to such a

proud position in the hearts and affections of a town or neighborhood. Young and old, rich and poor, pay their tribute of esteem and regard for the "good old Docior." He "went about continually doing good," and during his lifetime handed over large sums to be invested for the endowment of excellent charities. The rest of his wealth is bequeathed for similar purposes, though which his name and worth will endure for all time to come.

"Exegit monum-mtum perennius."

He was the author of a work, in two volumes, published in 1803, entitled, "An Account of the Native Africans in the Neighborhood of Sierra Leone." He contributed, also, a series of papers in the *Edinburgh Medical and Surgical Journal*—viz., "Thoughts on Quarantine and Contagion," 1828-29, and some articles, entitled, "Medical Facts," &c.

#### DANIEL PRING, M.D.

Dr. Daniel Pring, formerly a physician of eminence in Bath, died at Taunton on the 3rd instant. He was born at Taunton on the 5th of June, 1789. In entering on his professional career, he was placed as a pupil with Mr. George Freer, of Birmingham, to whom surgery is indebted for the first successful operation of tying the external iliac artery. He took his degree as a member of the Royal College of Surgeons, London, in the year 1811, and almost immediately after established himself in Bath, where the high order of his talents and his untiring industry soon earned him a conspicuous position both in the literary and practical departments of his profession. In 1813, he published his first work, "Essay on the Absorbents, comprising some Observations upon the relative Pathologies and Functions of the Absorbent and Secreting Systems." In the same year he gained the Jacksonian prize for a dissertation on the Nervous System, which, early in the year 1815, he published under the title of "A View of the Relations of the Nervous System in Health and Disease," dedicating it to Abernethy, with whom he long continued to correspond, and always maintained a friendly intimacy. In 1819 he published his "General Indications which relate to the Laws of the Organic Life," a work of profound thought and philosophic research.

About this period, suffering much from the effects of a severe attack of fever, joined with the arduous nature of an extensive general practice, he was induced to relinquish the practice of surgery, in which, however, he excelled in no ordinary degree. In the spring of 1822, after a short tour on the Continent, he proceeded to Edinburgh, and thence to St. Andrews, where he obtained the degree of M.D., and returned again to Bath in the latter part of the same year.

In the year 1823, he published "An Exposition of the Principles of Pathology and the Treatment of Diseases." In 1829, his last published

work, "Sketches of Intellectual and Moral Relations" appeared. We learn from the preface, that it was originally intended to connect this attempt with an analysis of intellectual relations with the Indications on Organic Life, and to publish both under one title, and it was finished in conformity with this design. This work is largely quoted from by Dr. Copland in his "Dictionary of Practical Medicine," where, under the article insanity, he adopts at great length, and almost *verbatim*, the arguments contained in the "Sketches of Moral and Intellectual Relations."

In addition to the forementioned works, Dr. Pring contributed largely to the medical, scientific, and literary journals. Amongst these, the first demanding notice was written and published at a time when literary productions were far less common amongst members of the profession than at the present day. It was in the *Edinburgh Medical and Surgical Journal*, vol. ix., 813, entitled "A Case of Hernia Cerebri, communicated by Daniel Pring, M.R.C.S." The patient recovered, and the case is further remarkable from the almost total absence of symptoms of injury of the brain throughout. In the *London Medical and Physical Journal* for June, 816, appeared "A Critical Analysis of Dr. Barry's work on the 'Arterial Pulse.'" In the same journal for Sept. 1820, a paper, entitled "Instructions to a Tyro on the Use of the Forceps in Midwifery." Also, in the same journal for January, 1821, the "History of a Case of the successful Formation of an Artificial Anus in an Adult," being the first case on record in which the formation of an artificial anus had been successful in the adult, the only other instance of its success being the case referred to at p. 8 of Dr. Pring's communication, in which Mr. Duret, a surgeon at Brest, had performed it on a child born with imperforate anus.

In physical constitution, Dr. Pring was always delicate, and his health became gradually more and more impaired, so that in the year 1840, at the comparatively early age of fifty, he wholly relinquished practice, and removed to Lanton, his native town, where he led a life of strict retirement, confining his intercourse almost entirely to the society of his own family. He was never married; and though possessed of very warm sensibilities, they were rarely exhibited in any external demonstration. His memory was extraordinarily retentive, and he was possessed of a fund of original anecdote and dry, quaint humor. He was a man of the most scrupulous integrity, and his extreme humanity to the brute creation manifested itself in many touching instances.

Besides a very large correspondence, he left behind him a very voluminous amount of manuscript writings, with several unpublished works, ready at once for the press; but, in a letter addressed to his executor, he gave directions that the whole should be burnt.

#### SAMUEL GRIFFITH, M.D

This estimable member of the profession expired on the 23d ultimo, at Torquay, Devon, in the 34th year of his age. The subject of this short and imperfect notice commenced the study of the profession at an early age, under the auspices of his father, Mr. Walter Griffith, of Bloomsbury-square, a Fellow of the Royal College of Surgeons, who entered him at King's College, where he prosecuted his studies with great success, and of which institution he was elected an Associate soon after he obtained his diploma of membership of the Royal College of Surgeons—viz., August 14th, 1846. In the same year he became a Licentiate of the Society of Apothecaries, and immediately entered on the active practice of his profession for a short time with his father, when he removed to Southwark, and rapidly rose into public estimation; and having graduated at the London University, and been admitted a Licentiate of the Royal College of Physicians, he was elected Physician-Accoucheur and Lecturer on Clinical Midwifery at St. Thomas's Hospital—appointments which, with others conferred on him, brought him at once into a large practice, the harassing duties of which particularly the "night work," soon told on his constitution by attacks of hæmoptysis, rendering a residence at Torquay, Devon, necessary. Here he remained some months, and then returned to his duties; but it soon became evident that a longer retirement from practice was necessary. Accordingly he repaired to Hastings, and thence to Torquay, where as before stated, he died on Thursday the 23rd ult., leaving a large circle to deplore the loss of a most sincere and warm hearted friend, and a strictly honorable and upright man of high independent spirit.

At the time of his death, Dr. Griffith held the following appointments:—Physician-Accoucheur and Lecturer on Clinical Midwifery to St. Thomas's Hospital, Consulting Physician to the Surrey Dispensary and Royal Maternity Charity, Consulting Physician-Accoucheur to the Farringdon General Dispensary and Lying-in Charity, Medical Examiner to the Star Life Assurance and Royal Asylum St. Ann's Societies, Fellow of the Medical Society of London, &c.

#### CHARLES GARDINER GUTHRIE, Esq., F.R.C.S.

We regret to have to announce the death of this gentleman, who had been ill some time. A fatal termination to his malady (ascites) was expected, but not quite so sudden a one. Mr. Guthrie, as a surgeon, inherited many of the distinguished qualities of his late father, and few surgeons with the operating-knife in hand had more coolness, decision, and *savoir faire*. From the capital operation of amputation at the hip-joint to the extraction of a cataract he was equally *au fait*, and his claims to eminence as a surgeon none will dispute. His kindness and generosity many will have to regret, and his

professional services will be missed by not a few, both high and low. Mr. Guthrie died at the early age of forty-two. He was formerly surgeon and lecturer on surgery at Westminster Hospital, and at the time of his death held the appointment of surgeon to the Royal Westminster Ophthalmic Hospital. He was the author of some papers "On the Cure of Squinting," "Lectures on Ophthalmic Surgery," and "On Cataract, with the Appropriate Operation in each Particular Case." Latterly he had lived somewhat retired, in consequence of the serious nature of his malady. He died without pain, and all that we will add is, "Requiescat in pace!"

#### JAMES AINSWORTH, M.D.

This gentleman, who was surgeon to the British Hospital at Callao, expired at his residence, at Bellavista, on June 13th, of tertiana. He had for upwards of eight years enjoyed a considerable practice, and was deservedly held to be the most eminent man then practising in Peru. After settling in the country, in conformity to its laws, he passed a professional examination in the Spanish language at Lima, and obtained the diploma, having previously become a member of the Dublin College of Surgeons and M.D. St. Andrews. He was interred in the British cemetery near Callao, and his funeral was most numerously attended, showing the high estimation in which he was held, not only by his own countrymen, but also by the Peruvians.

#### News Items, Medical Facts, &c.

**QUACKS IN FRANCE.**—At a meeting of the Academy of Medicine of Paris on the 28th ult., a discussion arose as to the propriety of asking the Minister of Public Instruction to prosecute a notorious person, called Giordano, who had the boldness to seek the approval of the minister for his medicines. In the course of the discussion, M. Valpeau made the following remarks, which at once show that *eminent persons* in France as well as in *other countries*, are particularly fond of charlatans, and such medical practice as is mysteriously surrounded by a cycle of wonders and supernatural agencies. M. Valpeau said: "It is, doubtless, quite right to point out quacks to the authorities, and to urge the application of repressive laws; but if the eminent persons, on whom devolves the duty of enforcing such laws, are themselves the patients of the quacks who should be prosecuted, of what avail will be our complaints? If people in authority have a peculiar taste for charlatanism, of what use is it for us to tell them how to punish quackery, to which they are so

passionately attached?" A neat companion to the above remarks would be a list of the noble-men and gentlemen, and, in fact, of *all eminent persons* of this country, who figure as the supporters of homœopathic, mesmeric, and other like schemes.

**THE JOHN HUNTER STATUE.**—Mr. South, the Hon. Secretary of the Committee for erecting a statue to the memory of Hunter, reported at the last meeting that the sums already received for that purpose amounted to £1082 15s. It was thereupon resolved "That the statue be of marble, and site the College. And the profession will be glad to hear (especially those members who object to all the funds being expended on a statue) that it was unanimously resolved "That the surplus of the subscriptions that may accrue, and any further funds that may be contributed for that special purpose, be devoted to the endowment of one or more scholarships of comparative anatomy."

**CANCER HOSPITAL.**—On Friday, July 8th, the annual meeting of this institution was held at the offices in Piccadilly, Mr. Oliver Farrer in the chair, supported by Mr. John Abel Smith, Dr. Marsden, the Rev. J. B. Owen, Mr. Halswell, Dr. O'Connor, Mr. A. Marsden, Mr. T. Marsh Nelson, and others. The report of the Committee, read by Mr. Cockerill, congratulated the Governors on the increase of the funds of the institution, and also its extended usefulness. The receipts from all sources had been £3603 15s. 9d., and the balances, after defraying all expenses, were £321 4s. 10d., with £1700 stock. The new hospital at Brompton was progressing satisfactorily, and would be opened early next year. The number of patients who had received the benefits of the charity was 2803, being an increase of 538 over the number of the preceding year. The report was adopted, and the numerous officers were thanked for their past services. The kindness and munificence of Miss Burdett Coutts were warmly appreciated, and a special vote of thanks was passed to Dr. Marsden, the founder.

**THE WOUNDED IN ITALY.**—A Committee has just been formed at Turin, to make the necessary arrangements for the reception of the wounded of the Franco-Italian army in the watering-places of Piedmont. The Committee is composed of twelve persons, amongst whom are four medical men—Messrs. Garelli, Sperino, Bottero (Sardinians), and M. Salleron (French).—The most deplorable accounts have reached us from Cremona, where the hospitals are encumbered with wounded. Hospital gangrene has set in, and the proportion of deaths is something awful.





*Gen. Berzelius*



# THE LANCET.

Journal of Medical, Surgical and Chemical Science and Practice, Criticism,  
Literature and News.

MR. WAKLEY, M.P., EDITOR.

J. HENRY BENNET, M.D., J. WAKLEY, JR., SUB-EDITORS.

IN TWO VOLUMES ANNUALLY.

VOL. II.

NEW-YORK, NOVEMBER, 1859.

No. 5.

## PRACTICAL CLINICAL REMARKS

ON

### ACUTE PERIOSTITIS.

DELIVERED AT THE LONDON HOSPITAL,

By T. B. CURLING, Esq., F.R.C.S.,

SURGEON TO THE HOSPITAL.

GENTLEMEN,—There are few operations more frequently performed in the hospitals of London than those required for the removal of necrosed bone, and they are certainly more common now than they were in former years. The results show that these operations are essentially of a conservative character,—that the tedious sinuses, always discharging and liable to inflame, have been enabled to close, and that useful limbs have been saved by the removal of a constant source of irritation. These operations have become more frequent, then, because surgeons have become more strongly impressed with the advantage of extracting locked-up or impacted dead bone—have become less afraid of ill consequences from the necessary disturbance of parts, and have been emboldened to undertake tedious and troublesome operations, knowing that they can be rendered painless by chloroform. Our museums are rich in specimens of encased bone taken from amputated limbs; but such preparations are rarely added now, because it is seldom that a limb is removed for such a disease until the attempt to save it has been made by extracting the incarcerated bone. But so numerous are cases of necrosis in hospital practice that it is well to enquire whether we cannot, in many instances, prevent this serious result. The more common cause of necrosis in the long bones is acute periostitis, consequent upon injury, and the two following examples will illustrate the nature of this affection, and the mischief which results from the neglect of early and decisive treatment. The particulars of the first case

are taken from the notes of the dresser, Mr. Michell.

CASE 1.—*Acute periostitis of the femur, followed by a small necrosis.*—Martha L—, a servant-girl, aged fourteen, was admitted into this hospital, Oct. 27th, 1858. She stated that on the 23rd she was carrying a pitcher of water up some steps, when, owing to impaired vision consequent on nebulae on the cornea after small-pox, she slipped and sprained her right knee. She slept but little that night, and the next day was hot and feverish and unable to stand. The pain gradually became so acute that she could not bear to move her limb, and she continued to get worse until the period of her admission. At this time she had all the symptoms of acute sympathetic fever. The right lower extremity was much swollen, and she cried out with pain when the slightest pressure was made in the course of the femur, especially at its lower part. On the 28th I saw the patient for the first time. She had passed a sleepless night, and her symptoms were those above described. I could detect no fluctuation over the femur, but I at once determined to make an incision down to the bone at its lower and outer part. The integuments and vastus externus muscle were cut through, and the periosteum freely divided, when a small quantity of pus escaped, and it was ascertained by the finger that the membrane was detached from the bone. But little blood was lost. Pressure with a sponge was maintained for two hours, to prevent hæmorrhage, and a poultice was afterwards applied. She felt greatly relieved by the operation, and slept well the night afterwards. The febrile symptoms subsided quickly, and, supported with a generous diet, she soon regained her health. The wound, after discharging pus for a few days, gradually filled up, till at length only a small sinus was left. It was ascertained, on examination with a probe, that a small portion of the femur was denuded; but, as she was able to get about, she was dis-

charged March 10th, 1859, and directed, if the wound remained unclosed, to apply again for admission in three months' time.

She was re-admitted on the May following. She was then in good health, had grown stout, and the muscles of the thigh were well developed. There was a sinus furnishing a slight discharge, and a probe passed down to the femur seemed to enter an aperture and to grate against dead bone. On the 26th I cut down to the bone, chiselled away a small portion, so as to enlarge the aperture, and extracted two small pieces of dead bone from the interior. There was no bleeding of any moment. The wound afterwards closed up readily. She was discharged July 18th, the sinus being nearly healed.

The notes of the next case are furnished by the dresser, Mr. Welch.

**CASE 2.—Acute periostitis of the tibia, followed by extensive necrosis.**—Mary Ann C——, aged fifteen, a girl of strumous appearance, but who had generally enjoyed good health, was admitted into the hospital on Feb. 14th, 1849. She stated that she had struck her left leg rather severely four days previously, since which it had become swollen, and excessively painful. Fomentations were ordered by the house-surgeon, and I saw her for the first time on the 17th. She was suffering from high constitutional fever. Her pulse was 200; indeed it could scarcely be counted; her tongue being dry and furred, and her cheeks flushed. She had no appetite whatever, and had not slept a minute for two nights. Her leg and ankle were greatly swollen and red in patches. There were great tension and extreme tenderness in the direction of the tibia. I at once made a long and free incision over the bone, when a large quantity of pus immediately escaped with considerable force. The finger passed into the wound, came in contact with the tibia extensively denuded. She was greatly relieved by the incision, and the fever subsided rapidly afterwards. Abscesses, attended with a good deal of suffering and constitutional disturbance, formed subsequently over both malleoli. They were opened, and found to be connected with the bone. Her health became so much impaired, and her strength so much reduced, and there was so much swelling above the ankle, with indications of the joint being affected, that amputation seem to be called for. I had her placed, however, under the influence of chloroform, and then, on careful examination, finding the ligaments tolerably firm, and being unable to detect any crepitus, I determined to watch the case a little longer. Some improvement was shortly manifested, though her recovery was retarded by the formation of another abscess over the internal malleolus, which was also opened. The improvement afterwards continued, and by the end of March, under tonics and a generous diet, the patient's strength was greatly restored. The wounds closed up a good deal, leaving numerous sinuses leading down to dead bone, with healthy granulations. The head of the tibia appeared

to have retained its healthy state, but the rest of the bone gradually became greatly enlarged, the thickening extending to the inner malleolus.

June 30th.—I laid open some of the sinuses, chiselled away a quantity of soft new bone, and removed several pieces of dead bone. The necrosis was irregular, consisting, in some places, of a thin scale from the surface; in others, of nearly the whole thickness of the tibia encased in new bone, and in some places of small portions of the interior enclosed in the original bone, thickened, and soft in texture. One of the latter was extracted quite from the lower end of the tibia, and this communicated with the sinus over the internal malleolus. Since this operation the patient has gone on extremely well. Her general health has improved; the sinus over the malleolus has closed up; the enlargement of the tibia has subsided, and the larger wound has steadily healed up.

When we consider that the whole, or greater part, of a bone may be destroyed by acute periostitis—that the inflammation may extend to the adjoining articulations, imperilling the safety of a limb, and that patients sometimes sink under the constitutional fever attending it, I need not urge the importance of an early diagnosis of the disease, in order that right and prompt measures may be taken for its removal. The complaint for which acute periostitis is most liable to be mistaken is acute rheumatism; and it is a mistake which, I fear, is not unfrequently made in practice. Indeed, some care and nice observation are required to make the diagnosis. In rheumatism, as in periostitis, there is high inflammatory fever, with swelling of the limb, and great pain, increased by pressure, so that the patient is nearly helpless, and he shrinks from the touch of the surgeon, in dread of the torture which an examination may cause him. In periostitis, say of the femur or tibia, the swelling is diffused. It is not limited to the larger joints—to the ankle or to the knee, but occupies a wider range, and is œdematous in character. But the chief diagnostic mark is the seat of pain. In periostitis little or no pain is caused by pressure, unless it be made over, or in the course of, the affected bone. You may, in the early stage, move the limb at the knee or the ankle, and press the ligaments and tendons without producing pain, but the slightest pressure on the bone excites intense suffering. If you press over the tibia or the muscles of the thigh around the femur in rheumatism, you rarely cause much pain; but in acute periostitis such pressure cannot be tolerated for a moment. The conclusion in favor of periostitis will be much strengthened if it be found, as in the cases just related, that the attack of inflammation succeeded an injury.

The treatment commonly recommended in acute periostitis is local depletion with calomel and opium. Just at the onset of an attack, in a superficial bone like the tibia, this treatment

may be of service, but in periostitis of a deep seated bone, or if the inflammation do not speedily subside, such measures are not to be relied on. After matter has formed beneath the membrane, they are worse than useless. They weaken the patient without exerting any influence on the disease. There is then no way of averting serious mischief but by a free incision of the inflamed periosteum. Some of you evinced surprise when, in the case of L—, on my first visit to the patient, though no fluctuation was perceptible, I determined at once to cut boldly through the thick vastus externus muscle down on the femur. There was, indeed, no other mode of preserving the bone. I was satisfied, after enquiring into the history of the case, and a careful examination of the limb, that the periosteum of the femur was acutely inflamed, and the incision revealed the presence of a small quantity of pus confined beneath it. The membrane was partially detached, and in a few hours extensive mischief would have ensued. This was arrested by the incision, and the almost immediate cessation of suffering, the rapid subsidence of the inflammatory fever, and the speedy restoration to health, were the satisfactory results of this decisive treatment. What would have been the condition of the patient had the operation been delayed, may be learned from the second case. I did not see C— until after a large suppuration had taken place. The periosteum was extensively detached, and so distended by the pus effused beneath it, that when an opening was made, the matter gushed out with force over my clothes. In the first case, notwithstanding the early relief by an incision, slight death of bone ensued; but in the second case the necrosis was very extensive, and the inflammation having affected the cancellous tissue in the lower end of the tibia, the ankle-joint became at one time in jeopardy. Additional incisions were required, and under this treatment the urgent symptoms at length subsided, the inflammation in the periosteum and bone, and the necrosis ceased to extend, the work of restoration was set up, and the case had a favorable issue.

### PRACTICAL CLINICAL REMARKS,

DELIVERED AT THE LONDON HOSPITAL,

BY JOHN ADAMS, Esq., F.R.C.S.,

SURGEON TO THE HOSPITAL.

### ON SURGICAL OPENINGS INTO THE KNEE-JOINT.

Gentlemen,—I avail myself of the fact, that I have lately had under my care in the hospital four cases in which I have thought it necessary to open the knee-joint, to bring the subject of suppuration of this joint before you; and the first question which suggests itself to us is this,—Is it desirable, or necessary, to open by incision so large and complicated a joint as that of the knee? And this question suggests itself

because you have been taught, and the teaching is correct, that an opening into a joint is a very serious affair, and ought not to be undertaken without very careful consideration of all the circumstances attending the case.

Some years ago a man was brought into this hospital who had been bitten in the knee by a tiger. There was no doubt that the joint was penetrated by the tooth of the animal, as the usual sign of penetration was present—namely, the escape of synovia. The case was treated in the ordinary antiphlogistic manner, but suppuration occurred, with great constitutional excitement and irritative fever, and the limb was amputated. The man speedily succumbed. Matter was found distending the joint. Now I have no hesitation in stating that the practice in this case was bad, and that instead of the amputation, a free incision ought to have been made into the knee-joint to give exit to the matter. It is, however, probable that under any circumstances, the patient would have sunk, as the articular cartilages were wholly destroyed, and amputation would still, probably, have been resorted to.

I was requested by the surgeon who had attended the last case, to meet him in consultation on the case of an old gentleman, who had a considerable collection of fluid in the knee-joint. There appeared but little doubt that suppuration had taken place, and it became a question, whether it ought not to be opened. A free incision was made into it, and a large quantity of matter was let out. The joint was strapped and bandaged, and the matter did not re-accumulate, but in a fortnight the joint became completely ankylosed. The old gentleman sank, however, from internal disease, and no examination was permitted.

These two cases are not parallel, but the last illustrates the position, that an opening into the knee-joint, for the evacuation of matter, is necessary, and may be made out only with impunity, but with great advantage.

Let me now direct your attention to the cases you have witnessed yourselves, and point out to you the circumstances leading to the necessity of free incisions into the knee-joint. The four cases are all different in many very important respects. The first is that of a man of about forty-five years of age, who was admitted into the hospital in consequence of a compound fracture of the patella, which necessarily caused an opening into the knee joint. The treatment pursued in the onset of this case was, in my opinion, quite judicious, as a laudable attempt to save the limb was made; and, the parts being accurately adjusted, the limb was kept in an extended position, and the usual antiphlogistic means being had recourse to, the wound over the patella soon healed. But the case did not progress satisfactorily; for, inflammation occurring, abscesses formed in various directions, some superficial and others very deep, so that I was compelled to cut through the muscles of the

calf to remove some dead fascia which kept up the discharge. After this, pus formed in the interior of the knee-joint, and I was compelled to make incisions on either side of the patella at different times, to give exit to the matter. After struggling on for a length of time, ankylosis of the knee took place, at an angle certainly not quite convenient for freedom of progression; but I hope the limb will eventually become useful, as all discharge has ceased for a considerable time.

The next is the case of a man, aged about sixty, who was admitted in consequence of some obscure inflammation of the leg after an injury. The case was progressing favourably, when a deep-seated swelling formed in the ham, and, after a few days, deep fluctuation was detected, which led me to make a very cautious opening, through which a large quantity of pus was evacuated. The opening was enlarged, and it was found that the matter came from between the heads of the gastrocnemius externus, and close to the large bloodvessels in the popliteal space at the back of the posterior ligament of Winslow. Nothing untoward happened for some days, when the abscess ceased to discharge, and the knee-joint began to swell. The swelling increased day by day, and evidently indicated suppuration in the knee-joint. Now this was very remarkable, because it appeared as if the matter had made its way from the popliteal space into the interior of the joint through the posterior ligament: at least, it appeared so to me. However, severe constitutional irritation occurred, and it became requisite, from the tension of the joint, to do something for the patient's relief. I had some idea of amputating the limb, but it was determined, at a consultation with one of my colleagues, to make an attempt to save the limb, and, to effect this, to make a free incision into the joint. I therefore opened the joint, first on the inside, and, at an interval of ten days or a fortnight, on the outside, and gave exit to a large quantity of sero-purulent fluid on both occasions. The man has struggled through, with a constitution evidently damaged by hard living and severe labour, and is progressing favourably now; but the opening still remains patent on the outside of the knee, and the fungous nature of the granulations points at some deep-seated disease, probably of the bone itself. I cannot speak very favourably of the case, but I think enough has occurred to show me that, if his constitution were sound, he would make a fair recovery, with an ankylosed joint. I have now directed him to be sent into the country for the benefit of his health. The case is remarkable, from the peculiar course which the abscess appeared to take, having made its way from the popliteal space into the joint itself. I feel satisfied in my own mind that amputation of the thigh would have been attended with a fatal result, from the defect in the man's constitution; and, therefore, although the cure is as yet imperfect, I am under the

impression that no other treatment could feasibly have been adopted than the one I pursued; at any rate, it proves that you can open the knee-joint without destroying life or limb.

The third case is one of a lad about twelve or thirteen years old, who was admitted in a very advanced stage of low fever. He had also considerable swelling of the left leg, consequent on inflammation of the subcutaneous cellular tissue. A large abscess formed over the head of the tibia, which I opened. After this, matter formed very deeply along the outside of the knee-joint, and this I opened. Soon afterwards the joint itself became much swollen and painful, and was tense with fluid. I suspected matter in the joint, and made a free incision into it. I found a large collection of pus, and the articular cartilages extensively eroded. I could not advise amputation, as he was still labouring under symptoms of low typhus fever; and he sank, after a few days, with signs of general pyæmia.

In this case it was apparent from the beginning that no operation was advisable except that of opening the joint to give exit to the matter. It is of no use amputating in such cases, as the constitutional disease (probably the cause, rather than the result, of the local mischief) could not be benefited by so violent a procedure. And I cannot help thinking that operations performed under such conditions, fatal as they always are, bring discredit upon surgery, inasmuch as they are always and unexceptionally attended with the loss of life.

Now, the last case of this series to which I shall direct attention is one now under treatment, and is that of a man whose limb I amputated in consequence of extensive injury to the ankle-joint. The case is interesting as showing how much the constitution can bear under very unfavourable circumstances, and under a most complicated series of affections. The man's condition has been no doubt materially injured by a habit he acquired in China of eating opium to a large extent.

He was admitted three or four months ago in consequence of extensive injury to the left ankle from the falling of a heavy weight on his leg and foot, by which he sustained a fracture of the tibia above the malleolus; and the fracture being exposed, it may be termed a compound fracture. Sloughing of the skin over the inside of the leg and ankle laid bare a large portion of the tibia, which protruded to a great extent, being detached from the lower fragment, which remained in connexion with the astragalus; this, however, becoming subsequently detached, was removed by the dresser. About four inches of the protruding tibia was dead; the consequence was that extensive suppuration was going on, and there was no possibility of repairing the mischief without amputating the leg or removing the dead bone. On consultation, it was determined to saw off the dead bone. There was no difficulty in doing this; and there appeared to

be a fair prospect of success, as granulations of a very healthy character shot up from every part of the exposed surface. However, after three or four weeks, the man got materially worse, and the granulations assumed an unhealthy aspect, and, as his constitution seemed evidently suffering from the long-continued drain, I thought it right to amputate below the knee. The operation was performed very high, just below the knee, on the principle advised by Mr. Teale in amputation of the thigh. The skin of the upper surface of the stump sloughed to a slight extent. During the progress of the case, hæmorrhage to an alarming degree occurred from the popliteal artery, and this was secured by Mr. Ward, who laid open the stump to reach it. His progress was satisfactory until inflammation attacked the knee-joint, and a large quantity of fluid was poured out, and which presented itself towards the inner side, as is usually the case. I opened this freely, and let out a large quantity of sero-purulent fluid, by which the patient was relieved. The only additional circumstance I need mention in this case, is the fact that, the opening on the inside of knee becoming closed, a large abscess has formed in the bursa beneath the tendon of the rectus, which frequently communicates with the joint itself. There is every prospect of cure.

Thus, you perceive, that at the same time I have had four cases under my care, in which I have thought it advisable to open the knee-joint. And I may ask the simple question, why should you fear to open this joint? You may be quite certain of this, that where suppuration has taken place, it is absolutely necessary that you should adopt this procedure, as there is no chance whatever that the pus can be absorbed under the circumstances mentioned in the preceding cases. I think the custom of freely opening the joint is due to the writings and practice of Sir Benjamin Brodie, and I am sure that you cannot commit a more fatal error than to leave patients unrelieved of abscess in the interior of the joint, under the impression that you are likely to add to the mischief already existing by opening so large a joint as that of the knee. Let me give you this piece of advice: if you determine to cut into the joint, let your incision be free, and do not trouble yourself by squeezing the matter out with your hands, but lay a flannel, soaked in warm water, over the part, and allow the cyst itself, by its inherent faculty of contraction, to force out its contents. In most cases, it is desirable to leave the opening patent, and not to trouble yourselves to bring the edges of the wound together by strapping and bandaging, although this practice may sometimes succeed. You have seen cases in the hospital where the constitution has been infected with that very fatal blood-poison to which the term pyæmia is given; and, in many of these cases, abscesses form in the various joints of the body. In such cases, I would especially advise you to make

free incisions into these abscesses, and the result of my experience is that by such treatment many lives are saved.

## LECTURES ON THE STRUCTURE AND RELATIONS

OF THE

NERVOUS SYSTEM AT THE PERIPHERY, INCLUDING THE NEUROLOGY OF THE ORGANS OF SPECIAL SENSE.

DELIVERED AT THE UNIVERSITY OF GLASGOW,

By JOHN G. S. COGHILL, M.D.,

DEMONSTRATOR OF ANATOMY.

### I.

GENTLEMEN,—In these Lectures I purpose describing to you, in detail, the nature of the ultimate structural relations subsisting between the nervous and other organic systems in the body. This will involve a consideration of the various modes in which the distal or peripheral extremities of the nerve-fibres are disposed of, or terminate; of the modifications of form which they undergo; and of certain special structures, of minute form, which are found appended to their distal extremities, in situations where particular nerves, or groups of nerve-fibres, have special functions to perform. This subject is one for our knowledge of which we are almost entirely indebted to researches of a comparatively recent date; and at a time remarkable for the progress of investigation into the structure and function of the nervous system generally, it may more readily claim increased interest and attention. The many difficulties it presents as a subject of investigation, from the minuteness of the structures involved, and their proneness to rapid decomposition, by which their histological characters are so much altered, have opposed the progress of successful observation; and, indeed, it is only lately that the peripheral nerve terminations, with their related structures, have obtained more than incidental reference in systematic treatises on the structure of the nervous system. It will also appear from the numerous references I shall be obliged to make from time to time in these lectures to the somewhat prolix literature of our Teutonic neighbors, that the subject has attracted the special attention of their physiologists. From the variety and extent of the peripheral relations of the nervous system, the laborers in this field of investigation, although numerous, have limited their attention exclusively to particular portions, and accordingly we find the sources of our information disconnected, and widely scattered over an extensive range of periodical literature. Indeed, I may say that no attempt has yet been made, in our own language at least, to collect and arrange, in a systematic form, the results of the numerous researches which have from time to time been announced by individual observers.

Before entering on the more particular examination of our subject, I propose to direct your attention for a short time to its more general relations, anatomical and physiological, to the other parts of the nervous system. This is necessary in order that you may understand more fully the important concern it has in the production and development of the various phenomena resulting from the operations of that system in the animal economy. Amongst the different phenomena occurring in living bodies, we recognize some which cannot be referred to the action of any of those forces which preside over the changes taking place in the inorganic world. The production of these phenomena, accordingly, have been ascribed to powers or properties called into action under certain conditions, in obedience to various stimuli, mental and physical, objective and subjective, appropriate to each, and which, in consequence of their manifestations being confined to living bodies, have been termed *vital properties*. Of the vital properties characterizing the *animal*, there is none more indicative of the living principle than that termed *sensibility*. In virtue of this property, the various tissues and organs of the body, internal and external, are rendered more or less *sensitive*, or capable of receiving impressions, which we become conscious of through the faculty of *sensation*—sensibility residing in the part, sensation in the brain. This property of sensibility is localized in a special tissue—the nervous, just as *contractility*, another vital property, is localized in the muscular. On the presence and general distribution of this nervous tissue throughout the body, the property in question is communicated to all the textures and parts in a degree proportioned apparently to the amount of the nervous element possessed by them.

The nervous system, in which this function of sensibility is thus specially developed, is an arrangement of structure, by means of which all the various parts of the body are united and co-ordinated into one individual organism, and that harmony of action and function produced so essential to maintenance of life. This is the organic function of the nervous system, but it subserves a still higher purpose: it harmonizes and constitutes the medium of the actions and reactions of the corporeal or physical, and the mental or psychical elements, on each other. It forms the appropriate seat of the psychical phenomena we term “mind;” not that the existence of the latter depends upon the presence of the nervous element, but merely that it is necessary for their manifestation. Mental, or as we shall term them, psychical acts are invariably accompanied, or preceded, by certain parallel processes, or actions, occurring in the nervous system. Mind, however, is not a part of the brain, nor is it a secretion or product of the cerebral matter, as bile is secreted by the liver, or gastric juice by the stomach, which is the view apparently taken of it by some German physiologists more

than tinged with materialism; but it is a co-ordination of emotions and feelings produced by sensations arising in obedience to certain laws, and proceeding under certain conditions to which they are restricted, by the over-ruling principle of consciousness. This psychical, or inferior element of the human mental constitution, which man possesses in common with the brute creation, is to be distinguished from that higher element, the *pneuma*, or soul, which he alone possesses as a special endowment from the Creator, and on the existence of which his moral nature depends. In the lower animals it is represented by the *instinct*.

The ultimate structural elements of the nervous system consist of nerve-cells, nerve-fibres, and certain structures attached to the distal extremities of the latter which only partake of the character of nervous tissue in virtue of that connection. A knowledge of the intimate structural relations subsisting between these various elements, as is evident, will throw great light upon the mechanism of many of the otherwise obscure and mysterious operations of the nervous system in the animal economy. The exact nature and extent of the connection between the nerve-cells and nerve-fibres have been determined more particularly by the researches of Schröder Van der Kolk, Rudolph Wagner, and Owjannikon. Their observations, which for the most part agree, render it more than probable that every nerve filament passing from or to the periphery becomes intersected, or terminates in a nerve-cell in the brain or spinal cord. Owjannikon, whose observations are most complete, found that the poles or processes of every nerve-cell became continuous with nerve filaments in the following manner:—One pole of each cell in the cord becomes continuous with an *afferent* or sensory filament from the posterior root of a spinal nerve, while another pole gives off a motor or *efferent* filament to an anterior spinal nerve-root; the latter filament going to muscle, the former coming from the adjacent cutaneous surface. This is the nervous arrangement upon which the excito-motor or reflex function of the cord depends.\* Its mechanism is simple. An impression is made on the skin over a muscle or set of muscles, which is transmitted along an afferent fibre to a nerve-cell or group of nerve-cells in the cord; from these, again, it is reflected as a motor impulse along an efferent fibre to the subjacent muscles, and movement of the part or limb is the result. From another pole of the nerve-cell a filament is continued up through the cord, to be connected probably in a similar manner with a nerve-cell in the brain. It is through the medium of such nerve-fibres as the last-mentioned that sensory impressions are conveyed from the periphery through the spinal nerve cells to the brain, and produce sensations, and by which only the mind becomes cognisant of reflex acts. It is also along

\* It is a purely physical, or rather a physiological, not a mental, action.

this channel that the impulses of the will are conveyed to muscles, and the movements of the body controlled.

Such is the mechanism of emotional actions, as they are termed. When an act of the will, excited by a sensation, resulting from a process of the intellect, is instituted, a parallel action of a physical nature is set up in certain nerve-cells in the brain. This action or movement is transmitted by a nerve filament passing down to another set of nerve-cells in the cord, from which, again, a motor filament or set of filaments, according to the power necessary to the performance of the act willed, conveys the influence to the muscles. The latter part of the process, from the intersecting cells in the cord to the muscle, is entirely out of the will, and purely physical in its nature. But, further, by other poles the nerve-cells are connected with each other, so as to form groups, by a set of intercommunicating or commissural filaments. These groups of cells, with their commissural filaments, constitute the various spinal and cerebral ganglia, which are again similarly connected to each other by other filaments. The relations of the distal or peripheral extremities of the nerve-fibres are very various. The motor, or more generally speaking the efferent, nerves are comparatively simple in their mode of termination at the periphery, while the efferent or sensory fibres, again, are variously organized and connected, so as to render them capable of receiving or initiating the different impressions which it is their function to transmit to the nervous centres. The impressions or movements propagated along the nerve fibres are either derived from or connected with their polar condition. It seems, from the experiments especially of Matteucci and Du Bois Raymond, to partake of the nature of an electrical current, to which it is at least analogous, if not identical; for the electrical current detected in the filament when in a state of functional repose disappears when it is traversed by a nervous movement. The force, whatever its exact nature may be, transmitted along a nerve filament, when it reaches the ganglion or group of nerve-cells in which the conducting filament ends in the nervous centre, produces a physiological change in them, accompanied by, but not creating, a mental act termed sensation, perception of the sensation being next affected by the consciousness; for we may have sensation without perception. The original excitement, the polar action or force transmitted, and the resulting action instituted in the ganglionic centre, are purely physical or physiological in their nature; but the sensation accompanying the latter is a psychical act or mental condition, and a higher and further process is next initiated, by which the sensations are interpreted by the consciousness and reduced to perceptions.

The physical nervous acts which accompany or precede the production of sensations do not always simply subside in the ganglia in which

they are originally set up, but are capable of being transmitted by the commissural filaments I have previously described to other ganglia; and thus sensations and the perceptions derived from them are co-ordinated and compared, and so admit the occurrence of those mental actions and re-actions necessary for the evolution of thought or intellect—the operations of the intellect being the free exercise of thought under the control of the judgment. Certain parallel physical movements or changes in the brain accompany such operations of the intellect, which are known by the resulting fatigue and exhaustion, and the characteristic changes in certain secretions, especially urinary; but such intellectual operations are conducted quite independently of any physical laws or conditions controlling the other dynamical and mental processes preceding the operation of the consciousness, to which we have already referred. I must not, however, pursue these considerations further. It is, perhaps, in these higher relations that medical science presents its most inviting aspect. We must be content, in the meantime, with receiving these related phenomena as ultimate facts; how they occur, we cannot explain.

Systematic writers, in treating of the structure of the nervous system, have recognized a division of their subject into *central* and *peripheral* portions: the former comprehending the brain and spinal cord, or the cerebro-spinal axis; the latter extending from the roots or central connexions of the cerebral and spinal nerves to the periphery. The latter division, however, includes several highly important structures connected with the distal extremities of the nerve-fibres in certain parts of the periphery. These peripheral nerve-structures differ so essentially in their general character and functions from the other nervous elements as to entitle them to be considered separately, as a distinct division of the general nervous system, more especially as every addition made to our knowledge—which is far from being complete—of the peripheral nerve-structures, displays a differentiation of structure so marked and elaborate, and functions so special, as fully to warrant their being thus regarded. In accordance with this view, we shall recognise—1. Central nerve-organs. 2. Intercommunicating nerve-fibres. 3. Peripheral nerve-organs.

1st. The central organs comprise the cerebro-spinal axis, composed of nerve-cells and commissural nerve-fibres, the relations of which I have already indicated, and these are arranged in distinct groups or ganglia.

2nd. The intercommunicating filaments are the nerve-fibres connecting these central organs with the periphery. They arrange themselves, in virtue of their functions, into afferent and efferent fibres. Along the former are propagated those movements which end in sensation, general or special; and along the latter the impulses of the will, ending in muscular motion, simple



or co-ordinated. There is no anatomical difference capable of being distinguished existing between them, and the researches of Du Bois Raymond and others render it probable that the nervous force or current may be transmitted either way along the same nerve-filament, according to the point at which it is initiated. This force, whatever it may be, is identical in both cases; the result depends entirely on the central or peripheral connexions of the fibre.

3rd. The peripheral nerve-organs include the special structures which are, in certain parts of the periphery, attached to the distal extremities of sensory nerve-fibres; but as Goodsir, by a beautiful generalization, perfectly in accordance with our knowledge of the subject, points out, all organs and tissues, in which nerves are distributed and terminate, must be regarded as peripheral nerve-organs, inasmuch as they are capable of impressing or influencing them, or of being impressed or influenced through their agency. All afferent or sensory nerves are connected by the peripheral extremities of their fibres with peculiar structures, of various degrees of complexity as regards their form and arrangement, by means of which structures the forces or impressions which the fibres convey to the nervous centres originate or are initiated. These afferent fibres, as I already said, are in no way different from the efferent, except in so far as their central and peripheral relations are concerned. The afferent, or incident nerves, as they have been also called, only receive and convey impressions varying according to the nature of their peripheral connexions, in which the said impressions originate, on the application of the appropriate stimuli. It is the distal extremity of the nerve-fibre alone that is capable of being thus impressed; the nerve-fibres are not in themselves endowed with the property of sensibility. All stimuli, therefore, and irritations applied to the nerve in any part of its course, produce sensations, the origin of which is invariably referred to the peripheral terminations of its fibres. This is not only true as regards the nerves of special sensibility, such as the optic and auditory nerves, and the nerves of the skin subserving the sense of touch; but it is also true with respect to the distal terminations of the sensory nerve-filaments in muscle, glands, and other parts, for they can only convey information, so to speak, to the sensorium, with respect to the state of the structures in which they are distributed, in virtue of the connexion of the ultimate elements of the nerves, and the tissues of the part or organ in which they terminate. Every texture and every organ has the power of transmitting, through the afferent nerves, an account of its condition to the brain, in addition to the power which the latter possesses of influencing or controlling the peripheral organ through its efferent nerve-fibres. In this way every muscle and every gland, and, indeed, every texture, must be regarded, to this extent at least, as a peripheral nerve organ, *quoad*

the incident nerves terminating in it. And it also stands in this relation to its efferent, or motor nerve-fibres, for the force or impulse initiated at the nervous centre by the will can only take effect—that is, can only be communicated to the muscle, in virtue of the connexion subsisting between the distal extremities of the nerve-fibres and the muscular tissue; the nerve fibres may traverse a muscle without being related to it incidentally or motionally, unless terminating in its tissue. Inasmuch, then, as every structure in the body in which nerves terminate has, to a greater or less degree, the power of influencing, or being influenced by them, we must consider the former as standing in the relation of peripheral nerve-organs to the nerves distributed in them. From these observations it is evident that an intimate acquaintance with the peripheral connexions of the nervous system is highly interesting as well as important, in relation to the study of the phenomena and laws of nervous action—a subject of which our knowledge is still comparatively limited.

An account such as I purpose giving you of the anatomical relations of the nervous system at the periphery, will involve a description of—

I.—The various structural modifications which the distal extremities of the nerve-fibres themselves undergo before the final termination.

II.—The simpler forms of nervous connexion at the periphery, by which the various tissues, glands, and other organs of the body—such as the skin and muscles—are brought into actual relation with the nerves distributed in them, and in virtue of which relations they are entitled to rank as peripheral nerve-organs.

III.—The peculiar series of structures, of which the retina forms the highest member, met with in close relation with, or attached to, the peripheral terminations of the nerves of special sense, in which the special impressions which it is the particular function of the latter to convey, are initiated by the appropriate stimuli. A peculiar differentiation prevails amongst these peripheral nerve-appendages corresponding to the nature of the stimuli, for the appreciation of which they are designed, and to transmit which to the sensorium is the special function of the particular nerve to which they are attached. As these special sensory impressions vary much, both in kind and degree, from the ordinary sensibility possessed, more or less, by nearly all parts of the body in common, there is a corresponding variety in form and structure of the organs in which they are excited. That special exaltation of ordinary sensibility which constitutes the sense of touch is localized in certain portions of the skin, by which they are adapted for the appreciation of the varying degrees of contact or pressure and temperature, constituting the phenomena of that sense. The tongue is fitted for the reception of those delicate stimuli which produce sensations referred to the sense of taste. The nose, as the organ of

smell, is similarly enabled to receive and appreciate the stimuli giving rise to sensations of odour. Ascending still higher in the series, we meet with the highest forms of such structures developed in connexion with the terminal expansions of the auditory nerve in the lamina spiralis of the cochlea, and of the optic nerve in the retina, the structure of which is so delicate and sensitive, that movements initiated by the mere vibrations of the imponderable media interpreted by the sensorium, as sound and light, are communicated by them to the nerve-fibres, and by that channel to the brain.

Having concluded these introductory observations, which I have been induced probably to extend too far, I shall in our next lecture proceed to the details of our subject.

## LECTURE II.

GENTLEMEN,—In accordance with the plan which I indicated to you in my former Lecture, I shall proceed to describe—1st, the arrangement of the nerve-fibres, and the modifications of their anatomical characters towards the periphery; and 2nd, the probable ultimate nerve-terminations at the periphery.

### I. THE ARRANGEMENT OF THE NERVE-FIBRES, AND THE MODIFICATIONS OF THEIR ANATOMICAL CHARACTERS TOWARDS THE PERIPHERY.

(a) *Terminal plexuses*.—Tracing the nerves towards their periphery, we find them, previous to the final distribution of their fibres, breaking up into numerous small bundles, which interlace with each other in every direction, so as to form plexuses of varying degrees of intricacy, and extending close to the actual termination of the nervous filaments. Valentin,\* whose description, for the most part I have followed here, first described the plexiform arrangement of the minute nerve-bundles at the periphery. He remarked the regularity of its occurrence, more or less, in all nerves, and termed it the *Terminal plexus of the peripheral system*. Gerbert† also traced out terminal plexuses, of various degrees of delicacy, extending through the entire periphery of the nervous system. The terminal plexuses formed by the cutaneous and muscular nerves of the frog were early recognized by Burdach;‡ and more recently by Wagner in the nerves in the papillæ of the tongue of several animals, but especially distinct in that of the calf. The existence of this disposition of the nervous fasciculi in a peripheral plexus in the several tissues has been sustained by all subsequent investigation. Burdach§ also, and Valentin|| have pointed out that this terminal nervous plexus corresponds to some extent to the capillary network of the vascular system, and that in the same manner as the capillaries

of every tissue and organ assume a characteristic arrangement, so the nerve-fibres, in their terminal plexuses, seem also to exhibit distinctive features, according to the nature of the texture in which they are distributed. In both cases—vascular and nervous—the mode of arrangement would seem to have some relation to the function of the parts in which they are respectively situated. Burdach further endeavored to show that distinctions also prevailed in the character of the terminal plexuses in the different kinds of nerves. Thus he believed that the nerves of special sensibility resolved themselves into their ultimate elements in their terminal plexus, while in the common sensory nerves the terminal plexus was generally formed, not by the primitive nerve-fibres, but by the smaller nerve-bundles; and in the muscular nerves also, the terminal plexus was always composed of nerve-fasciculi of considerable size, and that, even in their subsequent and final distribution, they never resolved themselves into the finer nerve-filaments of other observers. Such distinctions, however, do not appear to have been the result of correct observation.

The purposes served by this plexiform arrangement of the nerve-fibres at the periphery are not very obvious. Valentin supposed that it produces (in the sensory nerves at least), from the greater interchange of the primitive fibres, a multiplication of the points of contact, accompanied by an increase in the actual amount of nervous matter. But what influence it can exert in effecting the former of these conditions does not so clearly appear; for these interlaced fibres are not the ultimate peripheral termination of the nerve-tubules, and, as Weber has shown, it is only the distal extremities of the filaments that are endowed with sensibility—a fact to which I have already referred. That the terminal plexus has some important influence in connection with the innervation of the part in which it occurs is extremely probable. The closeness and delicacy of the plexus at least seem to bear a distinct relation to the degree of sensibility possessed by the tissue.

(b) *Divisions of the primitive nerve-fibres*.—Till within a comparatively recent period it was held as determined that the so-called primitive nerve-fibres or tubules with double contours, and varying from  $\frac{1}{12000}$  to  $\frac{1}{1000}$  of an inch in diameter, were the most minute element into which the nerve-bundles were resolved at the periphery. In the human subject, at least, all investigation into the actual terminations of the nerve-filaments rested at this stage, and when apparent exceptions to this view were announced in the discoveries of Schwann,\* Savi,† and other observers, they were received with some suspicion, and their correctness doubted. The ramification, however, of these primitive tubules into more minute filaments, as afterwards as-

\* Traité de Neurologie, p. 26, 1841. Translated by Jourdan, vol. iv. of the Encyclopædia Anatomique.

† General Anatomy, translated by Gulliver, 1842.

‡ Muller's Archives, 1838, p. 99.

§ Valentin, in Traité de Neurologie, p. 27; and in Nova Acta, Curios. Nat., p. 175, vol. xviii., 1836.

\* Muller's Archives, p. 274.

† In his Anatomical Studies of the Nervous System of the Torpedo, appended to Matteucci's Memoir, pp. 321, 323.

certained by numerous observations, was presumed by Müller\* in 1835, who remarked—"It is not very probable that the so-called primitive fibres, which are of considerable size, form the actual terminations of the nerves in parts, the elements of which are more minute than them." Subsequently the correctness of this opinion was established by the researches of Schwann, Remak,† and other anatomists, who were led to consider, principally from observations in the lower animals, that the so-called primitive nerve-fibres were capable of being resolved into extremely fine filaments by repeated subdivision previous to their ultimate termination. Independent observations of the frequent occurrence, in man, of distinct divisions of the primitive tubules of the motor nerves into minute fibrils, were announced by R. Wagner in his monograph on "The Structure and Termination of Nerves,"‡ published in 1847, and by Volkmann§ also about the same time, and their observations were subsequently confirmed by Kölliker's|| researches with respect to divisions of the muscular nerve-fibres, of which he figures a very beautiful instance which he saw occur in the omo-hyoid muscle. He also described the occurrence of these divisions, in the form generally of bifurcations, in the nerves of various other tissues, such as the periosteum, the interosseous membrane of the leg, and in the mucous membranes such as those lining the pharynx and the vagina, and in the conjunctiva, where very beautiful ramifications of the nerve-tubules may be seen. Valentin¶ also describes this branching of the primitive fibres towards their distal terminations, and figures an instance of a dichotomous division or bifurcation of this nature. Still later divisions, more or less complete, of the terminal extremities of the fibres of the sensory nerves were observed by Henle, and Kölliker, and by Krohn\*\* and Pappenheim,\*\* in connection with their terminations in the Paccinian bodies, to which I shall again refer more in detail. Kölliker also observed branchings of the cutaneous nerve-fibres occurring, according to him, generally at an acute angle, which were especially apparent in the more superficial fibres. The occurrence of this branching of the distal extremities of the cutaneous nerve-tubules, and their relation to certain minute appendages in connection with the sense of touch, have still more recently been ascertained by R. Wagner and his pupil, Meissner, and subsequently borne out by the investigations of Kölliker and others. Wagner†† has also seen in man and in certain of the lower animals, such as the calf, subdivisions of the fi-

bres in the tongue, in the form of tufts, to such an extent as to render it difficult to trace the fibrils to their ultimate termination. Similar appearances also have been observed by him in some of the glands, such as the parotid and lachrymal, and he states that they occur, though rarely, in the nerve tubules in the pulp of the teeth. Ecker\* describes the nerve-fibres breaking up into finer filaments in the medullary substance of the supra-renal capsules, and Kölliker has found them in the spleen of the calf. Finally, Wagner‡ states, as the result of his examination of numerous preparations, that not only the motor nerve-fibres, but also the sensory, and those called primitive sympathetic (trophic) fibres, subdivide at several intervals towards the periphery. Later investigations, again, have determined the existence of subdivisions in the primitive fibres in the terminal expansions of the nerves of special sense, but I shall allude more particularly to this in a subsequent lecture. These observations in the human subject were anticipated by frequent investigations of wide range in the field of comparative anatomy. The merit of the original discovery of divisions of the primitive nerve-fibres is due to Schwann,‡ who first observed in the mesentery of the frog a double system of divisions of the primitive tubules, which has also been seen by Dr. Sharpey.§ In 1840, Savi described a double bifurcation of the nerve-fibres in order to form the hexagonal meshes of the network on the diaphragms of the prisms in the electrical organ of the torpedo. Marcusen|| and Wagner,¶ successive observers, have also remarked the occurrence of these repeated subdivisions in that structure. Kölliker\*\* likewise described the subdivisions in the same part as dichotomous, but sometimes trichotomous, the extent of from twelve to twenty-five branches. Good-sir†† has found a nearly similar disposition of the nerve-tubules in the electrical apparatus of the raia, or skate, also observed by Dr. Stark. M. Charles Robin,‡‡ also, has observed in the tails of several fishes of this genus the primitive tubules with double contours bifurcating and trifurcating several times. This has likewise been seen by Bilharz in the Nilotic malapterurus. Subdivisions of the primitive fibres have been recognized by Müller, Brucke, and Kölliker, in the orbital muscles of the pike; by Wagner, Ecker, and Reichert, in the mylohyoides, and the cutaneous muscle of the thorax in frogs;§§ and by Wagner and Meissner in the muscles of the mouse.|||| Gegenbaur and Czermak have made parallel observation in various

\* His Physiology, translated by Dr. Baly, 1840.

† Paget, in British and Foreign Medical Review, 1842.

‡ Neue Untersuchungen Ueber den Bau, und die Endigung der Nerven, 1847.

§ Müller's Archives, 1838, p. 274.

|| Microscopische Anatomie, vol. i., pp. 241-243, in which reference is made to Volkmann's observations.

¶ Über den Verlauf und die letzten Enden der Nerven, "Nova Acta," pp. 172-3.

\*\* Comptes Rendus, 1846, vol. xxiii., p. 768.

†† Annales des Sciences Naturelles, 1853, p. 378, et l'Institut, No. 1022.

\* Annal. d. Sc. Nat., 1847, p. 147.

† Neurol. Untersuch., 1854, p. 146.

‡ Müller's Arch., 1838.

§ Quain's anatomy, by Dr. Sharpey, vol. i.

|| Müller's Arch., 1855, p. 44.

¶ Annal. d. Sc. Nat., 1847.

\*\* Ibid., 1846, p. 181; Comptes Rendus, 1856, vol. xliii., p. 793.

†† Elin Monthly Med. Journal, August, 1855.

‡‡ Annal. d. Sc. Nat., 1846, p. 228.

§§ Kölliker's, Human Histology, vol. i. p. 226; Sydenham Society's Works.

|||| Müller's Arch., 1863, p. 61

animals.\* MM. Doyere and Quatrefages have also obtained similar results in their researches in the invertebrata.† The purpose served by this breaking up of the primitive-nerve tubules at the periphery into numerous fibrils seems very evident. A much greater extent of surface is thus more readily and effectively supplied by a single primitive fibre than could possibly be effected by any other arrangement. In connection with this subdivision of the sensory nerve-fibres, E. H. Webber conceived the entire sensory periphery or cutaneous surface of the body as mapped out into *tactile districts*, so to speak, each corresponding to the ultimate distribution of a primitive nerve-fibre, each district being thus supplied by the system of branches resulting from its subdivision. All impressions, consequently, initiated within such a district would be referred by the sensorium to one point only, answering to the primitive fibre within the district supplied by whose fibrils the impression was made, and accordingly producing only one sensation; since the independence or isolation of the divisional filaments is not provided for within the original primitive tubule by the persistence within it of their medullary sheath. According to this theory of Weber, if the points of the compasses are applied to the skin so as to touch it simultaneously, and produce two distinct impressions within the narrowest possible space, after the method pursued by him in his experiments, it would follow that if the points impinged at the same instant in two different tactile districts, two distinct sensations of touch would be produced by a proximity of the points of contact far more close and delicate than in any part in the immediate vicinity, where both points of the compasses might impinge within one so-called tactile district of Weber. This test has been frequently applied, and the result is always negative. Physiologically, therefore, we are driven to the conclusion that each system of the divisions of a cutaneous nerve-fibre must inter-radiate in a manner with each other in their final distribution. There is an economic purpose served by this arrangement—that is, by the peripheral subdivision of the primitive fibres. In this way the great bulk of nervous tissue is avoided which would result from the anatomical or physical condition necessary for the isolation and independence of these minute fibrils being maintained from the periphery to the nervous centres. The exceedingly close proximity of sensible points which would arise from the isolation of the divisional filaments, would cause an unnecessary, and, in many regions, an inconveniently delicate power of distinguishing sensations derived from exceedingly closely approximated points of contact. It is in this manner that while each point on the cutaneous surface is sensible, yet the aggregate sensibility of large cutaneous tracts is necessarily of compa-

ratively low intensity. There must also be, by the system of subdivisions of the fibres, to some extent at least, an increase of nervous tissue gained, as the sum of the branches appear to exceed in diameter the primitive fibre whence they are derived.

(c) *Attenuation of the nerve-filaments.*—Valentin, Kölliker, and other observers have remarked the occurrence of a characteristic change which frequently takes place in the primitive nerve-fibres towards their distal extremities, independently of the subdivisions into minute fibrils which I have just described—namely, a gradual attenuation or diminution in the diameter of the fibre or even of the filaments resulting from its subdivision. In one instance observed by Kölliker, primitive fibres of from 0.004'' to 0.0053'' became rapidly reduced in diameter within a short distance to 0.0053'''. This attenuation may be continued to such an extent as frequently to prevent the possibility of tracing the filament further towards its final termination. The diminution in size is accompanied by their assuming the appearance of the so-called sympathetic fibres described by Remak. They become pale, and present only a single contour line, and also an occasional moniliform or beaded appearance, which appears to be due to post-mortem changes. R. Wagner describes the divisions of the nerve-fibres as assuming an *embryonic* character, which is very much the appearance of those to which I have just referred, and disappearing in the sheaths of the vibrissæ (Tasthaare) of a rabbit. M. Robin has described the primitive filaments in the ray, sometimes without dividing, as becoming smaller by degrees, and gradually losing themselves in the muscular tissue. This has also been seen by Waller, and by Wagner more recently in the primitive fibres in the papillæ of the tongue; and by Wagner, Kölliker, and others in the nerve-filaments in the electrical organs of the torpedo. This decrease in diameter depends probably on the gradual deprivation of their medullary sheath, which serves to isolate, perhaps, more than to protect, the nervous matter of the axis cylinder; and the circumstance of their being deprived of this isolating or non-conducting investment towards their termination partially, or, it may be, even entirely, may possibly increase their susceptibility to the operation of stimuli. This appears to me capable of affording the explanation of the fact of the greater sensibility of their extremity as compared with that of the trunk of the nerve-fibre in its course, and it may also throw some light upon the mechanism of sensibility when considered in connexion with the conditions afforded by the tissue or part in which the nerve-filaments, thus modified, ultimately terminate. This deprivation of the medullary sheath seems to take place to a marked extent in the fibres of the nerves of special sense, as in the auditory and optic, where it is essential apparently that the true nervous matter should be exposed under conditions the

\* Muller's Arch., 1849, p. 362.

† Annal. d. Sc. Nat., 1846, p. 300.

most favorable for the development of the highest functional activity.

## II.—THE PROBABLE ULTIMATE NERVE-TERMINATIONS AT THE PERIPHERY.

(a) *General history.*—The earliest opinion that was held with respect to the mode in which the nerve-fibres terminated at the periphery was exceedingly simple in its nature. The nerve-fibres were supposed ultimately to become continuous by a direct fusion of structural elements with the tissues in which they were distributed; and though this was necessarily little more than a mere supposition, in the absence of scientific appliances sufficient to determine the point, there is a very strong tendency among physiologists at the present time to return to this view, both as the result of actual observation, and from the simplicity and harmony with which such a mode of structural continuity between the nervous and other tissues might be regarded in connexion with the phenomena of certain physiological processes. In the invertebrata, an insertion (*épaulement*) of the branches of the primitive nerve-tubules into the muscular fibrillæ has been seen by several observers—as by Doyère\* in the tardigrada (*Milnerium tardigradum*); and in this instance the insertion was accompanied by a change in the extremity of the nerve-filament from the previously crystalline to an opaque granular appearance. In the tardigrada also, and in the annelida and rotifera, M. Quatrefages\* has observed the distal extremity of the filament enlarged into the form of a cone, the base being towards the periphery, and embracing the muscular fibril; the structural continuity of the two tissues, nervous and muscular, being established, as Quatrefages expresses it, by “une pénétration réciproque—par une véritable fusion de substance.” The same granular appearance described by Doyère was also at the same time perceived. Wagner, Goodsir, and Huxley have placed beyond doubt, by repeated observations, the occurrence of the mode of termination by continuity of tissues of the muscular nerves in the human subject. Both Wagner and Huxley, indeed, strongly maintain their belief in a more extensive occurrence of this mode of termination in other textures. Mr. Toynbee,† with reference to the nerves of the kidney, remarks—“The filaments end by becoming continuous with the parenchyma of the organ.” The supposition seems warranted, in some instances where the extremities of the nervous fibrils have not been traced in consequence of their sudden disappearance, that they have become continuous with the tissue of the part. This mode of termination of the nerve-filaments, when accurately observed, is probably the only one in which there can be no fallacy derived from the possibility of a still further terminal disposition of the nervous element. The further investigations of histologists into this mode

of termination will probably determine its more general occurrence throughout the body. The view I have just stated as that originally held as to the mode of nerve-termination, was abandoned in consequence of some imperfect observations made in the muscular nerves in man, and of the arrangement of the nerve-fibres in the skin and tongue of the frog by Schwann, Valentin, Burdach, Emmert, and others, which originated a general belief in the termination of the nerve-filaments by *loops (anses, Schlingen)* in all tissues and organs indiscriminately, in the same manner in which they were till lately supposed to terminate in the nervous centres. Valentin, amongst others, announced as a general doctrine, that “nerves, properly speaking, have no peripheral termination, but that in the peripheral organs the centrifugal part passes without any definite change into the centripetal.” He also averred that this looped arrangement of the fibres assumed special characters in every tissue and organ. Gerber, an original observer, with equal confidence declared that “loops are the peripheral endings of nerves,” and he considered that the sensibility of the part varied in relation to the number supplying it, according to the closeness or convolution of the nerve-fibres. Volkmann\* also supported this view. The correctness of this opinion as to the ultimate ending of the nerve-fibres in loops, in addition to the physiological objections which might have been urged, was invalidated by the possibility of fallacy in the actual histological examination, as stated by Valentin himself, “that we are perhaps only looking at a simple bend of a nerve-fibre, which subsequently continues onward to its true termination;” while Hannover,† in reference to the same opinion, remarked, with equal truth, “une fibre qui a formé une courbe pourrait tresser sa marche et terminer dans une autre endroit.” Valentin further confessed that “the physiological study of these looped terminations presents numerous difficulties, which render it absolutely impossible to establish a clear theory, not purely hypothetic, of the mechanism of perception in the peripheral parts of the body.” The subsequent progress of investigation seems to have transformed these possibilities into facts. Müller very early took exception to the view of the universal occurrence of looped terminations, more particularly in the case of the nerves of special sensibility; and after him repeated exceptions were adduced to this as a supposed rule. Indeed, it may almost now be asserted, that in no part of the body is a true termination of the nerve-filaments in loops met with—except, perhaps, in the iris and ciliary ligament, where Ruitert‡ has recently, in confirmation of the original observations of Valentin, described loopings in connexion with a plexiform arrangement of the nerve-filaments. In the case of the nerve-fibres in the tooth-pulp, as described by Valentin, Gerlach,†

\* Anal. d. Sc. Nat., loc. cit.

† Medico-Chirurgical Transactions, vol. II., 1846

\* Müller's Arch., 1840, p. 610.

† Recherches Microscopiques sur le Systeme Nerveux, 1844

‡ Müller's Arch., 1856, p. 66

and others, and which were always regarded as furnishing an undoubted example of the loop-endings, recent observations show that their supposed invariable occurrence even here admits of doubt. R. Wagner succeeded in some instances in tracing the primitive fibres, generally without subdivision, through several loopings, the convexities of which were generally turned towards the peripheral terminations, and prolonged beyond the loops, to terminate by free extremities. Gerlach, however, subsequently declared his adhesion to his original opinion. Kölliker\* described the nerves in the tail of the tadpole as ending in the skin by free pointed extremities. Finally, R. Wagner† most positively asserted that a final nerve-termination in loops never occurred in any case whatever. Such observations render it probable that the nerve-loops in question do not form the ultimate termination of the fibres, but are merely a mode of arrangement which they sometimes present near the periphery.

The primitive fibres, after subdividing into the minute fibrils which I have already described, have, in some instances, been traced into an exceedingly delicate network, formed by their assuming a plexiform arrangement. This has been regarded apparently by some observers as their ultimate disposition, as beyond this it was not possible to follow them. Thus, in the electrical apparatus of the torpedo, the exceedingly minute filaments resulting from repeated subdivision of the primitive nerve-tubules have been traced by Kölliker beyond the system of ramifications already described by Remak as prolonged from the supposed free extremities of Wagner, which in his turn he had followed from what Savi originally announced as the terminal nerve-loops. These filaments, I say, have been traced through this varied course by Kölliker, into an extremely delicate plexus, supported on a fine homogeneous membrane, apparently their ultimate termination. M. Charles Robin has also described the divisions of the nerve-fibres, which finally arrange themselves apparently in a network of large meshes, in the tails of fishes of the genus *Raia*. This mode of nerve-termination by a plexiform disposition of their apparently ultimate elements has also been described as occurring in various glandular organs, as, for instance, in the supra-renal capsules, by Ecker,‡ and in the parotid and lachrymal glands by Rudolph Wagner. With respect, however, to these so-called ultimate terminal plexuses, especially in glandular organs, I believe there may be a final disposition of the nerve-fibrils beyond them; probably a continuity between the nervous and other tissue exists, although histologists have not yet succeeded in tracing it.

In my next lecture I shall go on to describe the ultimate disposition of the nervous element

with other structures, especially the muscular and cutaneous.

### LECTURE III.

(b) *Ultimate termination of the nerves in muscle.*—The earliest and most complete investigations into the subject of the peripheral terminations of the nerves were made in the muscular tissue, in consequence of the facilities it affords for histological examination; and, indeed, our knowledge is perhaps more satisfactory and conclusive at present with regard to the nerve-endings in muscle than in any of the other tissues. Rudolphi appears to have instituted the first researches into the muscular nerves, and although they seem to have been conducted for the most part with the naked eye, many subsequent observers, who employed the microscope, did not improve much on his original discovery, as was supposed, of the loop-like terminations of these nerves. His observations, however, must necessarily have referred to the general disposition of the larger nervous fasciculi. Prevost and Dumas directed their attention to this subject, using instruments of low power to aid them in their examinations. They observed a tendency of the nerve-fibres to descend perpendicularly to the muscular fibres; these fibres then seemed to form curves or loops, proceeding from one nervous branch to another; and finally to reascend in the direction of the brain. Valentin and Emmert, also, made parallel observations of a more minutely detailed character, which were subsequently confirmed, for the most part, by those of Burdach. They seem to have agreed in regarding the ultimate arrangement of the nerve-fibres to be as follows:—After entering a muscle, the nerve-trunk pursues for a distance a course somewhat parallel to the muscular fibres; it then breaks up among the fibres into numerous anastomosing branches of different sizes, running obliquely from the main trunk. These ramifications are repeated till they are reduced to fasciculi, composed of two or three primitive tubules, which then, by frequent intercommunication with each other and with the other fasciculi, resolve themselves everywhere throughout the muscle into a terminal plexus (that of Valentin), formed of oval or rounded meshes, generally disposed parallel to the course of the muscular fibres. Finally, from this nervous network the so-called terminal loops are formed, by twigs of one or more primitive nerve-fibres passing, in the form of arches, from one branch to another, and returning centripetally after the same fashion; the arching of the fibres always occurring towards the terminations of the nerve—i. e., towards the periphery.

This account of the final distribution of the muscular nerves, as given by the authors I have mentioned, assumes the primitive fibres to constitute the ultimate elements of the nerve-bundles, and even that it is not always necessary

\* *Annal. d. Sc. Nat.*, 1846, p. 103.

† *Neurol. Untersuch.*, 1854, p. 146; and *Physiologie von Funke*, part II., p. 427.

‡ *Annal. d. Sc. Nat.*, 1847 p. 107.

for the latter to take advantage of the power of resolving themselves into their primary constituents. It would also make appear that the nervous tissue only came in contact with the muscular at comparatively distant points; and, further, that the nervous currents, whatever their nature may be, are capable of being transmitted through the sarcolemma. The discovery, however, subsequently of the divisions of the primitive nerve-tubules into minute filaments in the muscular and other tissues, to which I have already in a former lecture alluded, declared that we had only reached a further, not the furthest, step in our acquaintance with the ultimate nerve-endings in muscle. Köl liker met with and figured a very distinct double dichotomous branching of a primitive nerve-fibre in the human omohyoid muscle, but he was unable to trace them to their ultimate destination, though he believed he had seen, in one of the facial muscles of the rabbit, a termination of the divisions of a primitive nerve-tubule in free pointed extremities. Wagner described the primary fibres as dividing, in some instances, into as many as five fibrils, which appeared actually to perforate the sarcolemma, and then to subdivide into still finer filaments, (not more than  $\frac{1}{1000}$  of an inch in diameter,) that ran in between the muscular fibrillæ, where they eluded further scrutiny. In other researches in the amphibia, he also discovered divisions of the primitive fibres, varying in number from two to as many as eight; he was not, however, able to trace them into the muscular fasciculus, but after running a short space, the fibrils appeared to be applied to it, either obliquely or transversely, or to proceed for some little distance parallel and in close contiguity to it,—in either case, becoming attenuated to a sharp point, frequently as fine as a fibril of connective tissue, and ultimately becoming pale and presenting single contour lines. Köl liker, in the larva of the chironomus (a dipterous insect), observed the bifurcations of a primitive tubule implanted by slightly expanded extremities into the two muscular fasciculi of the tarsus. I have already sufficiently referred to the descriptions of Doyère and Quatrefages, as to the insertion of the nerve-fibrils into the fibrillæ in certain of the lower animals; and also to the positive assertions of the latter as to the occurrence of actual structural continuity between the two tissues—nervous and muscular. Professor Goodsir, in the human subject, as well as in several of the lower animals, has determined from his own repeated examinations of the tissues in question, that the nervous filaments, resulting from subdivision of the primitive fibres, pierce the sarcolemma, and that a continuity of tissue is established within that membrane between the nervous and muscular elements.

From a careful revision of the subject in connexion with the preceding statements, I believe that the ultimate relations of the muscular

nerves are now well determined. The primitive nerve-fibres, after leaving the terminal plexus, form loops or curves, from which they are continued onwards; and, after subdividing into minute filaments, which perforate the sarcolemma or muscular sheath, terminate in continuity with the muscular fibrillæ. This ultimate connexion between the two tissues may account for the very important influence possessed by the nervous element over muscular contraction.

(c) *Peripheral disposition of the cutaneous nerves.*—We shall here study the nerve-terminations in the skin as a tissue highly endowed with the common sensibility, possessed more or less by all the other textures and organs of the body, leaving the consideration of it, as the seat of that special exaltation of sensibility termed the sense of *touch*, till we come to discuss the nervous element in connexion with the organs of special sense. This description of the general cutaneous nerve-terminations will also include those of the tongue and adjacent mucous surfaces, for they are invested by a modification of the true skin. Valentin, in accordance with his general theory on the nerve-endings, believed the cutaneous nerves to form no exception to his law of looped terminations of the fibres. Prevost and Dumas also here, as in muscle, entertained the same view. Breschet also arrived at a similar conclusion from his own investigations. Burdach took another view, however, and declared, from what he had observed in the corium of the frog, that the primitive nerve-fibres, after leaving their respective nerve-trunks, formed an exceedingly delicate plexus or network, and then, again collecting into bundles, assumed a centripetal course without any further arrangement. Czermak, however, traced nerve-fibres coming off from this plexus described by Burdach, which, after repeatedly dividing dichotomously, then formed a more superficial network of these finer filaments. He did not, however, succeed in tracing them beyond this plexiform arrangement—in reality, the *terminal plexus* of the cutaneous nerves, which extends throughout the entire thickness of the cutis vera, becoming finer as regards the size of the nerve-filaments, and closer as regards their arrangement, the nearer it approaches the periphery. In the human subject, Gerber described the terminal plexus to be composed of primitive fibres, which were given off from the plexus, and terminated generally in distant loops; but, in the sensitive cutaneous papillæ, he assumed a highly convoluted knot-like arrangement (*nervenknäuel*), and sometimes also disposed themselves in the form of a rosette (*tastrossetten*); and he appears to have been supported in his opinion by Krause and Purkinje. Köl liker and Wagner have both observed in man divisions of the primitive nerve-tubules, as also have Czermak and Gegenbaur, but they have not been able to decide whether this takes place in every instance. Köl liker believed that these divisional filaments ended in



loops, although admitting that occasionally he had observed free extremities. Gerlach stated that he had repeatedly observed looped terminations in the papillæ of the skin and of the tongue of frogs; in which, however, Wagner declared him to have been deceived, and insisted, in every case, on the existence of free ends. The looped arrangement of the fibres he holds to be only apparent, and, as he avers, resulting merely from the super-imposition of two fibres upon each other; and, further, that in other instances, vascular loops in the papillæ have been mistaken for nerve-filaments. Todd and Bowman rather favor these views of Wagner, as they have seen nerve-fibres pursuing a superficial course from the plexus, and then suddenly ending, or at least losing their characteristic medullary substance. In reference to the cutaneous nerves, Hannover, while he described a general termination of the fibres in loops, remarked that many fibres end suddenly, sometimes continuing of the same size throughout, but, in other instances, becoming finer, and either pointed or rounded at the extremity; concluding his description with the remark that "*Là des fibres en fils plus fins, et les bouts libres (mais non béants), seraient peut-être à régarder comme la mode de terminaison des nerfs cutanés,*" the correctness of which opinion more recent observations tend to confirm. In connexion, for example, with certain minute structures, termed touch-corpuscles, situated in certain cutaneous papillæ, and with the Paccinian bodies,—structures which I shall hereafter more particularly describe,—the existence of minute subdivisions and their terminations by free extremities is unquestionable. Respecting the ultimate disposition, then, of the cutaneous nerve-filaments, I am probably correct in asserting—1st. That although, in some few instances, they have been seen apparently to form terminal loops at the periphery, this is to be regarded as an exceptional occurrence; indeed, it is more likely that these loops are merely an arrangement assumed by the fibres beyond the terminal plexus certainly, but that their ultimate terminations are to be sought for still further towards the periphery. 2nd. That the general, if not universal, mode of termination is in free ends; by which is meant not an abrupt, isolated, or unaltered extremity, but that the end of the nerve-filament holds certain structural relations which are apparently of two kinds. (a) They terminate in certain regions in the Paccinian corpuscles, and in or upon the touch-corpuscles in the papillæ in portions of the integument where the sense of touch is developed; and (b) where such structures do not exist, the distal extremities of the filaments pass into, and become continuous with, the structural elements of the skin; and this is not only analogous to what exists elsewhere, as in the muscular tissue, but may be readily observed. They have been described long ago as losing their characteristic microscopic form, and becoming so altered otherwise as to prevent their being traced

further, even by those observers who were satisfied with following the fibres only to their looped arrangement after leaving the terminal plexus. This fusion of the cutaneous and nervous tissues is most consistent in a physiological point of view with the extreme delicacy and superficiality, so to speak, of the sensibility possessed by the common integument of the body.

I must not leave this part of my subject without referring to a theory which Dr. Carpenter, in his "*Principles of Human Physiology*," advances with respect to the peripheral connexions of the extremities of the incident or sensory nerve-fibres, according to which, apparently, he believes the existence of bodies of the nature of ganglionic vesicles, or nerve-cells, at their distal terminations, to be as necessary for the reception, or initiation, of impressions other than those of a mechanical kind, as their connexion with ganglionic cells in the nervous centres is for the production of the sensations derived from them, or, as in the case of the efferent nerve-fibres, for the initiation of motor impulses. Dr. Carpenter seems to have based his theory on the fact of certain ganglionic relations at the periphery subsisting in the case of the fibres of the optic, auditory, and, perhaps, also, the olfactory nerves; but the fibres of the nerves in question do not terminate in, but are merely intersected by, the ganglionic cells found in the course of their peripheral distribution. Whatever physiological harmony such a theory may possess, it is destitute of foundation as far as actual observation is concerned. The only approach, indeed, to anything favorable to such a view, is the supposition of Paccini, that the expanded extremity of the nerve-fibre, sometimes seen within the cerebral cavity of the corpuscles called by his name, is of the nature of a ganglionic cell. M. Quatrefoes certainly describes the fibrils of the cutaneous nerves of the amphioxus or branchiostoma, as terminating singly in a little oval cell-like body.

It is not without some difficulty that correct conclusions can be arrived at, in the present stage of investigation into the subject, as to the various modes in which the elements of the nervous tissue are supposed to be ultimately disposed of at the periphery. Every examination of the textures or organs concerned, with the most careful consideration of the extensive though often conflicting and apparently irreconcilable observations which I have so frequently detailed, drive us from the supposition of the prevalence of any one universal type in the mode of the ultimate nerve-terminations at the periphery. In addition to the direct contradictions of microscopic research, physiological considerations oppose the existence of any such anatomical law of structure; for it is, to say the least, very improbable that there is any one form on which the distal extremities of the nerve-filaments could be modelled, which would admit of their adapting themselves to their important

share in the very varied physiological actions of the tissues or parts in which they terminate.

### III.—SPECIAL PERIPHERAL NERVE-APPENDAGES OR ORGANS.

I have now described to you, as far as the present state of our knowledge of the subject will admit, the distal terminations of the motor and common sensory nerve-fibres: in doing so I have more than once referred to the existence of a remarkable series of minute structures appended to the peripheral extremities of the fibres of the nerves of special sensibility; and, as I indicated in my first lecture, I shall next proceed to describe, in connexion with these nervous appendages, the peripheral structure and anatomical relations of the nerves of special sensibility, constituting, each with its appropriate physical apparatus, the several organs of the senses.

We started with the announcement of the general laws, that all tissues and organs in which nerves are distributed possess the vital property of sensibility; that the degree of this property possessed by any texture seemed to depend on the extent of its nervous supply; and that every tissue and organ in the body, in virtue of its capability of influencing or of being influenced by the nerves distributed in it, is to be regarded, to some extent at least, as a peripheral nerve-organ *quoad* these nerves—i. e., those of ordinary sensibility, and motor nerves. All parts of the body have a certain amount of this property of sensibility. We may not, however, be conscious of it in some as a physiological condition; but when morbidly excited, the resulting sensations are interpreted as those of pain. I have pointed out to you also, that, while all the textures were endowed with this property to a greater or less degree, it is developed more especially in the skin or integument. From the general *sensible* periphery thus constituted, there are certain portions of it in which special forms of the nervous elements are arranged and adapted for the reception of specific stimuli, or, as I might express it, for the appreciation of certain sets of impressions appropriated to each of them. These are the nerves of special sensibility. They are distinguished by having developed, in intimate relation to the distal extremities of their fibres, certain minute and delicate structures, varying remarkably in form according to the nerve with which they are associated, and evidently, from their disposition and connexions, subserving some important functional design. The special sensory nerves are further distinguished by being situated, in each case, in the centre of a special modification and arrangement of the surrounding tissues, which afford in the highest perfection the physical conditions requisite for exposing the nervous elements to the operation of their particular stimulus. Thus is constituted the apparatus of *special*, in contradistinction from that of *general* or *common* sensibility. There are five such special developments of the sensory periphery destined for the

appreciation of a corresponding number of specific stimuli, forming the organs of the senses. The organs of special sensibility form a regularly ascending series, each excelling the one preceding it in the elaborateness of its structure and in delicacy of function. In each of them are recognised—1st, a mechanical apparatus at the periphery surrounding the other elements; 2d, certain minute structures appended to the distal extremities of the nerve-fibres; and, 3rd, the peripheral terminations of the fibres of the special nerve. The first can apparently be to a considerable extent dispensed with under certain circumstances; but the second element is entirely essential for the initiation of the particular impressions of the sense, and their communication to the nerve-fibres; for the latter are entirely incapable of being directly acted upon by the appropriate stimulus. Thus, there is no sensation of light produced by exposing the distal ends of the optic nerve-filaments to the operation of the normal stimulus of that sense; and so also with the others. Many of the earlier writers, and more recently Valentin, have described the occurrence of ganglionic or nerves cells in connexion with or amongst the fibres of the special sensory nerves as a characteristic element, without any precise notion as to the more intimate relations subsisting between them. These have now been more satisfactorily determined; and in some of the nerves the position and arrangement of the ganglionic cells (which I shall have occasion to describe more in detail) are so regular and constant, that the title of *peripheral ganglia* may be appropriately applied to them.

Before proceeding to describe the structural dispositions of the nervous elements of the organs of special sense, I shall state as briefly and concisely as possible, certain conditions and laws, which are well established regarding their particular functions, and the operations of their appropriate stimuli.

I. The special senses can only be excited through the medium of their characteristic peripheral structures or appendages, the connexion between which and the central nerve-organs is maintained by the intercommunicating nerve-filaments. The nervous current or movement initiated by the specific stimulus in the peripheral structures of a special sensory nerve, and propagated along its fibres, is, as I have previously observed, purely physical or physiological, not mental, in its nature, till it reaches the nervous centres, when it is to some extent seemingly changed, and becomes as a special sensation, a psychical process or act, interpreted by the consciousness into its corresponding perception.

II. The varieties in the sensations produced at the sensorium by impressions excited at the periphery of the nerves are not derived apparently from the properties of the stimuli exciting them, but are different psychical states or affections depending upon the particular central

connexions of the nerve-fibres—i. e., on the part of the sensorium in which they terminate, and where the physiological processes occur to which they are parallel, or related. Thus light is not a property of the fluid medium surrounding us, but merely the peculiar form in which its waves or vibrations impress the fibres of the optic nerve through the minute and delicate peripheral structures appended to them; and, being conducted to a particular part of the brain, are there interpreted as sensations of a constant and special character. So also with respect to sound, for it does not exist as such, except when the means necessary for receiving and conducting the vibrations of the atmosphere to the part of the sensorium, where they produce sensations of a special character, are present. This condition also obtains equally with respect to the other senses.

III. No amount of chemical or mechanical stimulus, of whatever nature, applied to the fibres of a special sensory nerve will produce sensations of pain, as is the case with nerves of common sensibility; but all stimuli applied to the former give origin to sensations at the nervous centres, which are interpreted there only as those derived from the operation of its own specific stimulus. Such sensations, however, are to be distinguished from those derived from the action of the normal stimulus; for the latter are recognised as *objective* sensations, the former as *subjective* sensations. Thus, if the optic nerve be irritated by any abnormal stimulus, such as a blow on the closed eye, a sensation of light results in the sensorium; but it is a subjective light, for that particular portion of the brain in which the optic nerve terminates can only interpret as light, impressions, in whatever way initiated, conducted to it along the fibres of that nerve. In obedience to the same law, subjective sensations of sound are a very frequent attendant on morbid processes at the periphery of the auditory nerve. In like manner, also, pathological changes in certain parts of the brain are accompanied by subjective sensations of taste and smell, from a depraved interpretation of impressions traversing the fibres subserving the functions in question.

IV. The special senses, from their relation to the consciousness, as regards the nature of the sensations communicated through their agency, arrange themselves after two types—a higher and a lower. In the latter we have touch, taste, and smell, as the character of the appreciation of sensations derived from them is more dependent relatively on conditions of the consciousness than of those from light and sound (the members of the higher type), the characters of which are always more fixed and absolute, not contingent and changing. To explain: the sensations derived from the exercise of the organs of taste, smell, and also of touch, with respect to the pleasure we become conscious of their affording, are ever varying with relative states of the mind; whereas the sensations of light giving

varieties of color and form, and those of sound giving varieties of volume and cadence constituting music, are to a much greater extent fixed in the value of their mental appreciations—agreeable sights and sounds being always so, disagreeable ones the reverse, although, however, they may become less so by habit. I have already remarked that the organs of sense form a regularly ascending series, both in elaborateness of structure and in delicacy of function. The order seems to be, commencing at the lowest member of the series—1st, touch; 2nd, taste; 3rd, smell; 4th, hearing; and 5th, seeing. And it would also appear that they preserve the same relative position to each other as regards the degree of constancy preserved in the character of their interpretation by the conscious element of the mind.

V. The operations of the organs of special sense occur quite independently of each other, if we except those of taste and smell; for it seems that the latter exercises some influence over the former, or at least that some co-relation exists between them. For if the current of air through the nostrils be arrested, not only will the sense of smell be for the time interrupted, but the sense also of taste will be, meanwhile, interfered with or impaired, to an extent proportioned apparently to the completeness of the arrest of the atmospheric current.

VI. Not the least remarkable of the many interesting phenomena exhibited in the physiological relations of the senses, is the mutual balance preserved in the respective development of their functional activity. This is well seen in the exaggeration of the senses of touch and hearing in the blind, and in the acuteness of the sense of seeing in those deprived of the power of hearing. Individuals also possess the power of exalting for a time the activity of any one sense by directing the whole power of the consciousness to the perception of sensations derived from it, keeping the other senses meanwhile, as it were, in abeyance.

In my next lecture, I shall enter upon the neurology of the organs of special sense, describing them *seriatim*, commencing with the tactile apparatus of the skin.

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### Original Papers.

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#### ON THE TREATMENT OF DIPHTHERITIC SORE-THROAT.

By C. SWAMY SMITH, Esq., M.R.C.S.E., Wilts.

I have for some time past carefully perused the various remedies that have been adopted in diphtheritic sore-throat. As this disease has of late been so prevalent, and in many localities so fatal, it is but right that every medical practitioner who has had many cases under his notice should at once make known the result of his experience; and on these grounds I now wish to add my mite to the general stock, by giving

the mode of treatment that I have had recourse to in at least two-thirds of my cases.

During the last three months I have had about forty cases of diphtheritic or malignant sore-throat under my care, and I have especially noticed that one and all of these cases have been in houses situated either near a pond or pool, or at the foot of a hill, and frequently where there are many trees about the house; not one having occurred in houses situated on high ground. On inquiring into the history of these cases, I have had but one answer—namely, that the disease commenced by a sore-throat, which the patient thought was only a cold; and consequently when I have seen them they have been in such a high state of inflammation and ulceration, that the patient has told me that he has then applied because he could not take food, either from the pain occasioned by swallowing, or else that it was no use trying, as it only returned by the nose; and very often the voice has been almost inaudible. I have tried many modes of treatment, and so far with very good results; but the one that I have most faith in is one that I would advise those who have not used it at any rate just to give it a trial. On first seeing my patient, I apply the strong solution of chlorinated soda to the fauces, and then follow up my treatment by ordering a sinapism to the throat; a gargle, composed of solution of chlorinated soda, two ounces; tincture of myrrh, two drachms; water, to six ounces: to be used every half hour; and in cases where the children are too young to gargle, I order the throat to be frequently washed with the same mixture by means of a piece of sponge. Internally I give to an adult (of course varying the dose according to my patient's age): chlorate of potash, two drachms; dilute nitric acid, three drachms; solution of cinchona (Battley's), one drachm; water, to six ounces; the sixth part to be taken every two hours. And in cases where there is much pain in the limbs, I generally add a few minims of tincture of colchicum, which addition has proved decidedly advantageous; the diet to consist of strong beef-tea, port wine, and, in short, all the nourishment the patient can take. I also strongly urge the necessity of free ventilation.

Out of these forty cases, I have lost only two, and both were in a moribund state when I first saw them. Although these means are undoubtedly useful in decided cases of malignant sore-throat, they are far too active to be resorted to in simple cases, as they would only tend to aggravate the symptoms.

Burbage, September, 1869.

#### ON A CASE OF GUN-SHOT FRACTURE.

By H. D. FOWLER, Esq.,

SURGEON TO THE 82ND REGIMENT, SHAHJAHANPORE.

A recent number of *THE LANCET* contains some valuable remarks on the subject of compound fracture in the upper extremity, by Mr. Skeg. The following cases seem to me to illus-

trate the remark of that gentleman—namely, "The more experience we acquire, the firmer should be our reliance on the boundless resources of nature."

On the 3d of May, 1858, the head-quarter companies of her Majesty's 82nd Regiment at Shahjehanpore were rather suddenly attacked by an overpowering force of the enemy, and obliged to retreat within the defences afforded by the ruins of the Jail, where they were shut up for eight days, under a heavy fire from the rebels. It was in protecting this retreat that private A. G. received a musket-wound in the left arm. The ball entered about three inches below the shoulder-joint, on the anterior surface, but somewhat towards its inner side, and passing across, obliquely outwards and downwards, extensively fractured and splintered the humerus, making its exit about three inches lower down near the insertion of the deltoid. The large vessels and nerves were fortunately uninjured, and there was but little hæmorrhage or constitutional shock at the time; nor was the arm itself much displaced. The first question was as to amputation. The arm was badly fractured—the fracture possibly running up into the neighboring joint; the bone, at all events, extensively comminuted, and a considerable extent of soft parts implicated and disorganized by the track of the ball. The contingent circumstances promised little in the way of rest and quiet. The patient, however, possessed a good constitution; and, having observed the superior vitality of the upper extremity, in its recovery from severe gun-shot injury, during the operations about Cawnpore, I determined on conservancy. Some spiculæ of bone were removed—one upwards of an inch and a half in length; the arm was slightly extended; the fracture adjusted as well as circumstances would permit, and lightly confined by two side splints; the forearm bent and confined, and water dressing applied. About the fourth day, an attack of erysipelas, with considerable swelling and pyrexia supervened—yielding, however, readily to mild antiphlogistic remedies, and warm spirit lotion, &c.; and was succeeded by a healthy discharge from the wounds. Throughout the treatment, though he was repeatedly moved, no unfavorable symptoms occurred. His strength was well supported. From time to time, some small spiculæ of bone and portions of the bullet were removed, while the discharge gradually diminished, and the wounds healed. He was sent home in October following, having been some time convalescent; the bone well united, and motion gradually returning in the joints of the elbow and fingers, which were somewhat contracted by long confinement; with every prospect of an arm nearly as efficient as before the injury.

The native splints are worth a moment's notice, as easily adapted to the emergencies of military Surgery, and being simple and efficient. They consist of thin strips of bamboo (other

wood would do as well), about a half an inch wide, and in length corresponding to the limbs. Laced together with twine, and having intervals of about a quarter of an inch between each piece, the whole forms a light, efficient, and easily adapted splint, through which discharge easily escapes.

Major M—, Bengal Artillery, was handed over to me with the rest of the sick and wounded of the force under Lord Clyde at Futteghur when his excellency proceeded thence to the capture of Lucknow; the major having been wounded several days previously at the passage of a river, on the advance upon the rebel camp at Futteghur. The account handed over to me was of the most formidable and unpromising nature,—namely, a gun-shot wound, the ball entering the lower and anterior surface of the left thigh just above the patella, fracturing the femur, and involving most probably the joint, as synovia-like fluid oozed from the wound at the time of this infliction, the ball itself lying imbedded in the popliteal space, whence an ineffectual attempt had been made to remove it by incision, but which resulted only in the abstraction of a spicula of bone. I must confess that after this account it was with no little anxiety that I received charge of a case of such a serious and complicated character; and my surprise was not less than my anxiety when, at my first visit, I found my patient with a healthy aspect and smiling countenance, free from pain, fever, and restlessness, with clean tongue, good appetite, regular bowels, and natural pulse. The wounded limb had been most carefully put up with Liston's straight splint; and on removing the bandages &c. about the seat of injury, the small, healthy-looking wound of entrance was visible above the patella; the joint was slightly swollen, but free from tenderness; posteriorly, there were considerable swelling and hardness in the popliteal space. The incision which had been made at the time the wound was received was nearly healed, and the whole limb was in good position. I consequently left things as I found them, giving no medicine, watching daily the position of the limb, and on the *qui vive* for any changes that might take place: all was, however, *couleur de rose*. In about three weeks this gentleman, as the hot weather was approaching, was sent away to the hills, the limb being firmly put up to provide against accidents in travelling. The union was firm; the extremity presented a natural appearance, and was of the same length as its fellow. The ball I have subsequently heard was removed by incision, and the officer returned to his duties.

What were the amount and nature of injury in this case? Was the bone really fractured, and the joint wounded, as supposed at first? Fracture so near the condyles would have probably implicated the joint, and produced more serious symptoms; and I consider it possible that the broad mass of bone was perforated ra-

ther than fractured, and that the ball (its velocity being almost exhausted) merely separated the splinter which was extracted, and then lodged. As regards the joint itself, the evidence of wound is the escape of synovial fluid, which probably came from the ascending pouch of the synovial membrane, or from a bursa between the fascia lata and tendon of quadriceps.

Primary amputation would not have been *malaprazis* in this case; and yet, had it been performed, the issue would have been very doubtful. Amputations of the lower extremity were by no means successful at the time; erysipelas, sloughing, and exhaustion were frequent sequelæ, and occurred, perhaps, oftener after flap than circular operations. Is the vitality of flaps diminished by the primary division of large trunks in the proximal extremity of the wound?

Shahjehanpore, June, 1869.

#### • ON A CASE OF OVARIAN DROPSY.

INJECTION OF THE CYST WITH TINCTURE OF IODINE;  
CURE

By C. BLACK, M.D. LOND., F.R.C.S.

R. M—, a young lady of nervo-bilious temperament, at the age of twenty perceived, for the first time, that her abdomen was somewhat larger than natural. The enlargement was not confined to either side; but it manifested itself by a greater fulness of the abdomen generally, which obliged her to "let out" her different articles of dress. She had never suffered any pain or uneasiness in any particular part of the abdomen; her general health had hitherto been good; but menstruation had, for a short time of late, returned at the end of every third week. This continued from four to five days; but the quantity of discharge was not greater than at the period of menstrual regularity. For eighteen months no medical opinion was sought, during which time the abdomen slowly but steadily enlarged. The general health still remained good; but menstruation, instead of returning at the end of the third week, now observed its natural period. Her own anxiety, as well as that of her friends, having at length been awakened by her present condition, she placed herself under the care of a physician, who at first treated her for hepatic enlargement, and subsequently regarded her case as one of pregnancy. The latter opinion caused her to seek the advice of another, by whom she was treated for mesenteric disease. Nine months from the commencement of medical treatment the case passed into my hands.

At this time the abdomen was equally distended, and as large as at the sixth month of pregnancy; the umbilicus was filling up; the abdominal walls could be lifted, as it were, from the tumor beneath; and the recti muscles started prominently forth in the effort to raise herself from the supine to the sitting posture. Palpi-

tation, with the hands placed on opposite points of the abdomen, elicited a sensation of fluctuation; whilst, by deep pressure in the right iliac fossa, a solid mass of small size was indistinctly perceived. The os uteri had undergone no change nor was it deflected to either side. Menstruation was regular, the general health was good, and nothing more than a feeling of weariness followed her usual amount of exertion.

The diagnosis at which I arrived was, that the case was one of ovarian dropsy; that the cyst sprang from the right ovary; that it was unilocular, and that as yet it had not, in all probability, acquired any adhesions to the abdominal walls or viscera. I was determined to watch the case, and to interfere as soon as the general health began to fail, or the function of any important organ was compromised. About this time she paid a visit to Manchester, where, at my request, she availed herself of the great experience of Dr. Clay in such matters. His opinion being in strict accordance with my own, and both of us agreeing that there could not be a more favorable case for treatment by iodine injection, it was resolved to await the development of the above-mentioned conditions which should call for immediate interference. Twenty-one months elapsed before operative procedure was deemed necessary. During this time the disease gradually progressed, until at length the abdomen was so distended that the breathing became oppressed, the digestive function impaired, the nutrition of the body defective, and the nervous system irritable.

On September 20th, 1858, the operation of injecting the sac was resorted to. The bowels having been relieved by an aperient administered the day before, the patient was placed sitting in a chair, the abdomen was encircled with a broad bandage; a small opening was made in this at the point selected for puncture, and through it the skin of the abdomen having been divided by a lancet to the extent of an inch midway between the umbilicus and pubes, a large sized trocar was pushed into the sac. The instrument was introduced as far as possible, and its point directed slightly upwards, in order that the sac might, during its collapse, be hooked upon the point of the canula, and thus ensure the introduction of the injection into its cavity. Fifteen pints of a clear, pale, straw-colored fluid, of the specific gravity of 1.022, and highly albuminous, were withdrawn. As the sac was being emptied the body was gradually inclined forwards, to maintain the relative position of the former to the canula. Twelve ounces of the Edinburgh tincture of iodine were now thrown into the sac by means of an enema apparatus, the pipe of which had been accurately adapted to the tube of the canula. The fluid was retained exactly twenty minutes, and the whole, or nearly the whole, of it was returned through the canula as ready as the original fluid of the sac was withdrawn. The injection

had, therefore, reached its proper place. Fifteen minutes after the injection had been thrown into the sac, a severe paroxysm of hysteria supervened, during which the operation was completed, and the patient put to bed. Shortly after being put to bed, she became more calm; and, half an hour after this, the hysteria entirely ceased. During this time an opiate was administered and the room darkened. To relieve vomiting, which occurred immediately after the completion of the operation, and which returned at short intervals, an effervescent saline draught was occasionally given. Before the operation, the pulse was 70, soft, regular, and equal; immediately after the operation it was 95, small and feeble, but regular and equal. On my taking leave of her for a short time, strict orders were given to the nurse to employ incessant fomentations of hot poppy decoction should pain in any part of the abdomen arise.—Evening: Has slept at intervals since the operation, but only for a few minutes together; sleep broken by sudden starts; abdomen feels "sore," and there is general tenderness on pressure; skin hot and dry; countenance suffused; tongue dry, white at the edges, brown in the centre; thirst; pulse 130, small, not wiry; respirations 23 per minute; sickness abated; has passed about four ounces of highly-colored urine. Iodine not detectable in any of the secretions. She was ordered three grains of calomel and fifteen grains of Dover's powder, to be taken directly, and to be followed every third hour by two drachms of the solution of the acetate of ammonia, one-sixteenth of a grain of tartar emetic, and a half a drachm of the spirit of nitrous ether, in the form of draught, together with a pill containing one grain of the grey powder and two grains of Dover's powder. The abdomen was to be frequently fomented during the night, and to be covered in the intervals by a hot linseed dust-poultice. The diet was to consist of grout-gruel, weak tea, and toast-water.

21st.—Eight o'clock A.M.: Slept uninterruptedly from twelve to two this morning, and from the latter hour until six at short intervals. The abdomen is generally tender on pressure, but most so in the right inguinal region, in which the ovarian sac can be felt partially contracted, extending laterally a little beyond the linea alba, and upwards about an inch above the anterior superior spinous process of the ilium. Pulse 130, small, soft, and regular; tongue still dry, and covered with a brown fur along the centre of its dorsum; thirst urgent; skin hot and dry; has passed about six ounces of clear, highly-colored urine. To continue the draught every third hour, and to take it with a pill containing one grain of calomel and two grains of Dover's powder. The fomentations and poultices to be continued.—Evening: The pain of the abdomen has gradually subsided during the day; pulse 125, larger; tongue moist at the tip and edges; thirst less urgent; skin disposed to perspire; has passed urine several times in increas-

ed quantity; bowels not moved since the operation. The remedies to be continued.

22nd.—Eight o'clock A.M.: Has passed a comfortable night, sleeping uninterruptedly two hours at once. The general "soreness" of the abdomen is much diminished. The ovarian sac is very distinctly felt through the abdominal walls; it is less in size. Pulse 108; tongue moist; thirst less; skin bathed in perspiration; respirations 18 per minute; urine deposits a heavy sediment of the urates; bowels have not been moved since the operation. To continue the remedies, and to take an aperient draught, containing the sulphate and carbonate of magnesia, camphor mixture, and peppermint-water.—Evening: Bowels have acted freely several times during the day; she feels in every respect better.

23rd.—Has had a good night; pressure upon the abdomen gives little or no pain, except over the sac, where deep pressure produces manifest uneasiness; the sac is more reduced in size; pulse 110; tongue moist, but furred as before; thirst moderate; skin perspiring; bowels have not acted since last evening; urine (from twenty to thirty ounces in the twenty-four hours) deposits a sediment of urates.

Henceforth the patient progressed, under certain modifications of the above treatment, to convalescence on the ninth day after the operation, and thenceforward she entered upon a tonic plan of treatment, with the allowance of a more liberal diet. About this time she was permitted to leave her bed, and to sit up for a short time in her room. To obviate a sensation of a "want of support" in the back and abdomen, a broad flannel bandage was applied, from which she derived great comfort, and which she continued to wear with advantage several months after recovery. On the twenty-first day after the operation she left Chesterfield for her own residence. For several days before her departure not the slightest trace of the cyst could be detected on the most careful manipulation. She has since continued well, and she is now in as robust health as at any part of her life. The abdomen has returned to its proper size, menstruation is perfect, and the eschar at the seat of puncture alone remains in expression of the disease from which she has suffered and of the operation which she has undergone.

*Remarks.*—The result of the above case affords proof of the value of iodine injection in the treatment of ovarian cysts. It will assist in determining the as yet undecided question as to the particular plan of treatment which ought to be adopted in ovarian disease requiring operative interference. So far, then, it shows that, where the cyst is unilocular and unconnected with any malignant formation, or simple solid mass of any magnitude, the operation of injection of iodine is sufficient to effect a cure. The question upon this fact arises, as to the relative mortality of this operation to that which is best understood by the term "ovariotomy." If, un-

der like circumstances, the former is followed by a less mortality than the latter, it is surely the operation to be preferred in similar cases to the above. Statistics, however, are wanting, not to establish the propriety of either the one or the other operation, which seems to be conceded by the all but unanimous voice of the profession, but to enable us to determine which operation is the more successful in the treatment of simple ovarian cysts. Facts have of late spoken strongly in favor of iodine injection, and to this mode of treatment *a priori* reasoning would tend. But there are, in this operation, risks to encounter which some authors think scarcely inferior to those which attend ovariectomy. The operation is followed by shock, by inflammation of the cyst as the immediate result of the operation, and sometimes by an uncontrollable peritonitis. If by accident the injected fluid is deposited in the peritoneal cavity, the last-mentioned condition is almost certain to arise. Where, too, the operator prefers leaving the injection within the cyst to be absorbed, a certain iodism of the system results, which may endanger and even destroy life. Against these occurrences, therefore, the operator must take every precaution. If shock occur before the operation has been completed, it should be terminated as quickly as possible, because further persistence might induce immediate death. The system should likewise be supported by those means which refresh and sustain the powers of life. If the necessary inflammation excited in the cyst should threaten to extend beyond its legitimate bounds, it must be restrained by appropriate measures. To guard against the possibility of depositing the injection in the peritoneal cavity, and of thus exciting fatal peritonitis, the canula should be pushed as far as possible into the cyst with its point directed somewhat upwards, in order that the cyst may not, during this collapse, fall away from the canula and the abdominal puncture. If peritonitis arise, it should be met with promptitude upon the ordinary principles involved in the treatment of simple inflammation. To avoid iodism and the danger attendant thereon, the injected fluid should be withdrawn after having been retained a sufficient length of time. There is, in my opinion, no advantage to be gained by leaving it in the sac to be absorbed. The saturation of the system by iodine may destroy life; but it can effect no more, in a curative point of view, than does the limited retention of the injection within the cyst.

Reviewed in some of these particulars, it will be seen that shock, in the character of hysteria, supervened at the expiration of fifteen minutes from the commencement of the operation, and that an early disposition to inflammation, not only of the cyst itself, but also of the peritoneum, followed its completion. The high rate of the pulse in the evening of the day of operation, its paticular character of softness and compressibility, and the already dry, brown tongue, showed too plainly the tendency of the inflammation



to assume an adynamic form. Active depletory measures were therefore uncalled for, and consequently unemployed. But with these symptoms were others: as the hot and dry skin; the red, injected countenance; the perfect stability of mind; the easy and but slightly accelerated breathing; the unimpaired physical power; and the deep, bright, lively expression in the color of the urine: which told me that present treatment ought not to embrace the use of stimulants. On the one hand, then, I endeavored not to favor this adynamic tendency by loss of blood; and on the other, to avoid any additional excitement of the system by the use of remedies. The complete success which attended the cases shows that these objects were attained, and that the further treatment of ovarian cysts by the means above stated, merits the particular attention of the profession.

Chesterfield, Sept. 1859.

### ON THE NATURE, SEAT, AND RELATIONS OF NEURALGIA.

By C. HANDFIELD JONES, M.B. CANTAB, F.R.S.,  
PHYSICIAN TO ST. MARY'S HOSPITAL.

The prevalent opinion respecting the nature of neuralgia seems to be that its existence implies an excited or over-active condition of the sensory nerves. Romberg uses neuralgia and hyperæsthesia as convertible terms, and states—"In hyperæsthesia we find that not only the irritation is increased, but that also the irritability of the nerves of sensation generally is exalted both during the paroxysms as well as in the intervals." It is very evident that we can have no knowledge from actual observation of the state of the affected nerve or nerves during the neuralgic attack. We must form our conclusions as best we may from consideration of the attendant circumstances, the *juvantia*, and the relation of the disorder to others. For the moment let us put aside all cases of neuralgia which may be regarded as depending on a local irritation of any kind—either direct, as a splinter imbedded in a nervous trunk; or remote, as a worm in the bowels; or on demonstrable poison generated in the system, or received into it—e. g., that of gout or lead. There remain then all those cases in which the disorder is dependent upon no ascertainable cause, except it be malaria, a draught of cold air, exposure to damp, overwork of mind or body, or some cause of exhaustion. These form a group which may be distinguished as Non-organic Neuralgia. Now, in these the existing debility or prostration is at least very often almost as marked a symptom as the pain. It is also more abiding and unvarying, and the conviction becomes wrought in the mind of the observer, that it is the fundamental state upon which the pain is, as it were, engrafted—the appropriate soil without which the seed would not grow. It is proved by experience that, unless this debility and prostration can be removed, and replaced

by healthy vigor, no real progress can be made in the cure of neuralgia. The task is like that assigned to Sisyphus, the patient's and doctor's hope is worn out by over-recurring relapses. The debility seems in a special manner to affect the nervous system. The brain is languid and dull, and inapt for mental labor; sometimes its function actually fails, and wandering or delirium occurs. Stimuli are beneficial, often very remarkably so, though their effect is temporary. Fresh, pure air, good food, sufficient repose alternating with exhilarating employment, supplemented or aided, if need be, by nerve tonics, are the real remedies, and just in proportion as they increase the general tone and strength does the patient attain complete recovery and immunity from relapses. On the other hand, just as surely do all causes of debility confirm, increase, and render inveterate the malady.

Now, it may be fairly argued that when the symptoms of debility, and especially of nerve debility, are so apparent, and have so distinct a relation to the particular symptom, this must be itself of like essential character. It can hardly be that the morbid state of the nerve affected can be greatly different from that which prevails so generally throughout the system, especially when we consider the means which avail for the cure of both. Romberg's metaphorical expression, speaking of anæmic hyperæsthesia (i. e., neuralgia), that "it seems as if pain were the prayer of the nerve for healthy blood," is, in all probability, exactly true. The nutrition of the nerve being ill performed, its structure undergoes some molecular alteration which conditions pain. What is true of neuralgia from this cause I believe is true of all cases belonging to the non-organic class. Electrical disturbances, damp cold, malaria, seem to me all to act in the like way as far as we can judge—viz., by deranging the molecular nutritive actions of the nervous structure, and so impairing its function. There are several circumstances which seem to me strongly to support this view. One is the very frequent co-existence of numbness with the neuralgic pain, especially in highly sensitive parts, as the fingers and hands. One cannot say in what the condition producing numbness differs from that producing pain; but it is clear there is no opposition between them; both are often present together, and the numbness commonly remains as the more permanent condition in the intervals of the paroxysms of pain, and even after they have ceased to occur. Now, numbness is evidently a failure of functional action. Of the same import is the occurrence of various degrees of muscular paralysis, which is often associated with neuralgia, evidently as an analogous affection of the motor nerves. It yields to the same treatment. The phenomena of myalgia may also be referred to an illustration of the nature of neuralgia. Here we have a manifest instance of the relation of pain to debility: the sensory nerves of the muscles express pain because they are weak; whatever increases the de-

bility increases the pain, and *vice versa*. The relation of ague to neuralgia is worth considering in respect to this question. It is certain that neuralgia may be a manifestation of malarious influence just as much as ague, and that the two may replace each other. It may also be affirmed that in neuralgia (non-organic) from other causes, the pain-causing condition of the nerve must be the same as in malarious neuralgia. Now, in an ague fit there is no doubt that the vaso-motor nerves are in a paralytic state, consequently it is probable that in a neuralgic paroxysm the sensory nerves are similarly affected. Lastly, we may allude to the cure of neuralgia by Faradization as an illustration of its nature. The pain of a sensory nerve and the paralysis of a motor may both be removed by the stimulus of the interrupted current. This surely indicates that both states are similar.

Even in organic neuralgia, it seems to me a matter of much question whether the nerve affected is in a state of exalted excitability, or simply of deranged and disordered nutrition. In lead poisoning, the motor nerves of the muscles are certainly paralysed, the pains are diminished (Romberg) "by pressure and friction," and the whole phenomena are indicative of diminished, rather than of increased, vital actions. The curative action of the sulphuret of potassium bath is only intelligible by regarding it as a peculiar stimulus to a great sensory surface, which is reflected from the nervous centres on the paralysed nerves and muscles. That it does produce muscular contraction, at least in some cases, is, I believe, certain. In gouty neuralgia, if we take colicky and spasmodic affections for examples, the disorder is much more of an asthenic than hyperæsthetic character. The pain and suffering attending a characteristic outbreak of gout in the foot have much more the features of hyperæsthesia than the colicky disorder. That a nerve which receives for nutrition blood poisoned by uric acid should be disordered in its acting, and thrown into a state conditioning pain, is very intelligible, but it can hardly be regarded as having its irritability exalted. On the other hand, the nerve lying in a focus of inflammation, by reason of the active hyperæmia, would seem really to be in a state of hyperæsthesia. Its condition is analogous to that of the nerves of one posterior limb in Brown Séquard's experiments of transverse semi-division of the dorsal cord, where hyperæsthesia is produced in consequence of paralysis of the vaso-motor nerves, and the resulting hyperæmia.

Again, when neuralgia results from the impaction of a speculum of bone, the development of a tumor, or the like, in a nervous trunk, although severe pain may be produced, it does not seem very clear that the nervous irritability is necessarily exalted—i. e., that the nerve-filaments, either on the distal or proximal side of the irritant, are more sensitive than they would be naturally. In fact one would rather expect that the normal function of the nerve

would be interfered with. In a case of neuroma recorded by Mr. Toynbee in the Pathological Society's Report for 1851, the only symptom was a diminution of the power of hearing. In the case recorded by Dr. Denmark, where severe neuralgia was produced by a fragment of a bullet imbedded in the radial nerve, no mention is made of the painful parts so unusually sensitive. The same may be said of a case recorded by Sir B. Brodie, in which a femoral aneurism produced pain at the inside of the knee. The following case from the *Dublin Medical Journal*, May, 1848, bears decidedly on this point:

C. M.—, aged twenty-seven, widow, mother of four children, had a neuromatous tumor developed in the course of the median nerve, of the size of an almond, in consequence of the nerve having been divided an inch above the wrist by broken glass. If anything, even her dress, touched the tumor, severe pains shot down to the hollow of the palm of the hand, and upwards to the shoulder. She complained much of numbness and coldness of all parts of the hand supplied by the median nerve. The nerve was cut across, and the neuroma removed. Fifteen months after the operation, she was quite free from pain, and observed nothing abnormal, except a remarkable coldness of the fingers supplied by the median nerve.

In some cases, however, it is certain that the peripheral nervous filaments are truly hyperæsthetic, as in the case related by Romberg (p. 87—44). In this, however, the hyperæsthesia may be accounted for by the increased supply of blood sent to that side of the face, the arteries pulsating strongly and the eye being bloodshot and prominent. The same explanation may apply to many other cases where the neuralgia is complicated with hyperæsthesia. The hyperæmia is conditioned by paralysis of the vaso-motor nerves, which run in company with the sensory, and this very circumstance is a further reason for viewing the fundamental condition of neuralgia as one of paralysis rather than excitement.

From the considerations which have been advanced, I am led to conclude, that in the majority of cases neuralgia essentially implies a lowering of the vital power and functional action of the nerve, not an increase. There are, however, certainly cases in which the painful parts are not manifestly hyperæmic, but are yet excessively tender, and intolerant of the least pressure. In these, it is clear that the excitability of the nervous apparatus is morbidly increased, yet I question whether the term hyperæsthesia is properly applied to them. In the state referred to, any, even the least excitement brings on or aggravates the pain. This certainly implies an undue mobility of the nerve-structure, a readiness to be thrown into the pain-causing condition, but by no means a real increase of sensory power. It is by no means clear that a part in this state would appreciate two points as separ-

ate at a smaller distance from each other than it would when healthy. I should not regard such a condition as identical with that induced by partial division of the spinal cord, as in Brown Séquard's experiments, or by strychnia poisoning. I think it probable that in these cases the morbid action is seated more peripherally towards, or in, the cutaneous terminations of the filaments; while in ordinary neuralgia the larger ramifications of the trunks are affected.

From the preceding discussion, we pass to the consideration of the question—What is the real seat of neuralgia—in the nerves or in the centres? Obviously, this is no easy question to answer. According to the law of eccentric phenomena, every sensation of which we are conscious is referred to the peripheral termination of the sensitive fibres (so Romberg writes). Bowman and Todd add that the sensation is referred to those parts, and to those only, to which the fibres irritated are distributed. According to this view, then, all appreciation of sensations as referred to any point in the course of the nerve is out of the question. An irritation, wherever set up, must be felt at the peripheral extremity of the fibres implicated, and never in any part of their intermediate course. But there are facts which are strongly opposed to this exclusive dogma, and which seem to prove that a sensation may be referred to various points in the course of the nerve-fibre. If we hit our funny-bone, although no doubt pain and tingling are felt at the peripheral distribution in the fingers, yet the chief agony is in the trunk of the almar nerve at the part struck, and certainly not merely in the skin covering it. The circumstance dwelt on by Valleix, that the specially painful points in nerves affected with neuralgia are always those where the nerve becomes superficial, is also a proof of a sensation being referred to other points besides the terminal. The same may be said of the pains which patients describe as shooting down along the track of a nerve as the sciatic. These certainly are not located merely in the skin which covers in the nervous trunk.

From these considerations, I am led to admit the possibility of very numerous exceptions to the law of eccentric phenomena, and to believe that pain in a nerve may really indicate by its situation the seat of the irritation or other morbid action. This is a conclusion of some importance to the local treatment of neuralgia. It justifies our empirical habit of applying sedative remedies as near as possible to the seat of pain. But of course we cannot affirm, in any case of pain involving the trunk of a nerve, that the morbid action *may* not be central; the law of eccentric phenomena holds true so far as that central disorder may certainly give rise to peripheral sensation. The only means of certainly distinguishing the site of the pain-causing action is division of the affected nerve. If this arrests the neuralgia, we know the disorder is seated peri-

pherically; if it fails to do so, we know we have to seek more centrally. In a very large number of cases, I fear it must remain problematic as to where the real seat of the disorder is. If—the pain being specially referred to some intermediate spot—injection of opium at that part (subcutaneous) should give more relief decidedly than the same dose at a distance, it would afford ground for believing that the cause of the neuralgia was localized in that spot. In the ordinary way of rubbing sedative liniments on the cutaneous surface over the seat of pain, we have no means whatever of proving a local action upon the suffering nerve, but rather the reverse. For take the case of the sciatic nerve, where pain is acutely felt at the back of the thigh, and notably between the ischiatic tuberosity and the great trochanter: if this is relieved by a sedative application to the covering cutaneous surface, we are sure that the chief action of the remedy must be on cutaneous ramifications of the glutæal, lesser sciatic nerves, and branches of the external cutaneous and other nerves on the front of the leg. These will convey impressions to the spinal centre, not far from the part where the roots of the sciatic are implanted; so that if the neuralgia were of central origin, it is very conceivable that the morbid action might in this way be beneficially modified. But, considering the depth at which the sciatic nerve lies from the surface, it seems quite impossible that the aconite, chloroform, &c., should penetrate so far through the skin, fat, and fascia, or even muscles. There exists some evidence to show that any strong impression made on the centre (such as cauterizing the ear, galvanizing the columna nasi) through incident nerves may put a stop to some neuralgiæ,

The relations of neuralgia are of course very different according to the cause which gives rise to it. If, however, we take the commonest kind—which arises from cold, malaria, debility—we must allow that it manifests a very close affinity with non-febrile *rheumatism*. Rheumatic and neuralgic pain are frequently so very similar, that they are only to be distinguished by the action of remedies. Iodide of potassium cures the rheumatic, quinine and iron the neuralgic; while often it occurs that in the same case, after having begun with the former, we have to resort to the latter to complete a cure. The beneficial action, noticed by several recent observers, of muriate of ammonia in neuralgia, can scarcely be dissociated from its remarkable and positive remedial action in muscular rheumatism. The interesting but obscure phenomenon of rheumatic paralysis is closely similar to, if not identical with, the paralysis or paresis of motor nerves which so often forms a part of neuralgia. *Catarrh* is allied to neuralgia by the similarity of its causes, the manifest implication (sometimes to a grave extent) of the cerebro-spinal nervous system, the resemblance of its inflammatory actions to those sometimes accompanying and depending on neuralgia, and in a large number of

cases by its "juvantia." If exhaustion aggravates a neuralgia, so does it also a catarrhal flux; while rest and toning means have an opposite effect. The affinity between neuralgia and *ague* in malarious cases is strikingly apparent; the two disorders so evidently replace each other, that there can be little doubt that the difference is only one of situation; the sensory nerves being affected in one case, the sympathetic system in the other. The therapeutic effects of arsenic and of quinine in *ague* and in common neuralgia, *rapprochent* the two disorders not a little.

#### ON A CASE OF WOUND OF THE FEMORAL ARTERY NEAR ITS TERMINATION.

SINGLE LIGATURE IN SCARPA'S TRIANGLE; RECOVERY WITHOUT SECONDARY HÆMORRHAGE.

By CHRISTOPHER BULTEEL, Esq., M.R.C.S.,  
SURGEON TO THE DEVONPORT AND STONHOUSE DISPENSARY.

Exceptional cases to general rules, in surgery as in all other sciences, are usually regarded with peculiar interest. It is believed that the subjoined case will be found to be an exceptional one, both as regards the mode of treatment (the application of a single ligature four inches above a wound of a large artery), and as regards the result of that treatment—viz., recovery without secondary hæmorrhage. I will first briefly state the case, and then make a few remarks upon it.

On the 23rd of last April, P. D—, aged eighteen, a carpenter's apprentice, of delicate constitution, was working at a wooden pillar with a mallet and gouge, when, happening to look round carelessly, the gouge, struck by the mallet, glanced off the wood, and entered the left thigh, penetrating the sartorius muscle, and wounding the superficial femoral artery, just before its termination in the popliteal. Finding himself bleeding he ran down about twenty stairs, through a court yard, into the street, where he stood some seconds, and then entered a public-house, and fell down on the floor of the bar, faint from loss of blood. Happening to pass about five minutes after the accident, I was called in. I found him lying in an immense pool of blood, with which also his trousers and drawers were perfectly saturated; blood was still issuing per saltum from the wound in a very large stream. I instantly placed my thumb on the trunk of the common femoral, and thus controlled the hæmorrhage. My patient was deadly pale, pulseless at the wrist, and his extremities already cold; urine discharged involuntarily. For half a minute he lay so still and motionless that I thought life was extinct. Brandy was poured into his mouth, and the limbs soon began to twitch convulsively, and after a few deep-drawn sighs, consciousness returned, and pulsation was again perceptible at the wrist. My friend and neighbor, Mr. Perry, came to my help in a few minutes, bringing

with him a tourniquet, which we immediately applied over the femoral artery; and having thus commanded the bleeding, we were able to remove our patient on to a narrow table close at hand, covered with a palliasse. We were soon joined by my partner, Mr. Warren Isbell, of Plymouth, and to both these gentlemen I am much indebted for their very valuable assistance.

We determined, in consultation, to lay bare the superficial femoral artery in Scarpa's triangle, and to apply a ligature to it in that situation. Our reasons for doing so I will state presently. This operation I performed about an hour after the accident, the ligature being applied nearly four inches above the wound in the vessel. The artery appeared small, flaccid, and semi-collapsed. On tightening the ligature, it was found to command the hæmorrhage from the vessel completely. In the exhausted state of the patient no chloroform was given; nor, indeed, was it necessary, for sensation and consciousness were at so low an ebb that he took but little notice of the operation. Both before and during the operation, brandy, ammonia, and chloric ether were unceasingly administered; for the pulse was still scarcely perceptible, and the face and extremities remained perfectly cold. He continued to shiver for some hours; and notwithstanding the constant application of warmth by means of hot-water bottles, and mustard poultices to the region of the heart, it was at least four hours before anything like warmth revisited the extremities. From that time reaction steadily set in, and within twelve hours the whole surface with the exception of the foot of the wounded extremity, had regained its temperature. The limb was kept raised, bandaged, and enveloped in flannel, and the tourniquet was left loosely round the thigh, the nurse being directed to apply it immediately should hæmorrhage recur.

His first night was a sleepless one, with constant starting and convulsive twitching, and considerable pain in the leg and foot, both of which, however, were now quite warm. Not to be wearisome with daily notes of the case, suffice it to say, that though placed under most unfavorable circumstances—having for ten days to lie on nothing better than a narrow wooden table covered with a thin straw palliasse, in the bar of a public-house, only separated from the constant noise inseparable from such a situation by a thin wooden partition about half the height of the room, and having on the tenth day (for till then we dared not move him) to be carried a mile to his own residence,—he nevertheless recovered steadily without the least tendency to gangrene, or any other bad symptom. The ligature separated on the nineteenth day, and both wounds, the accidental and the surgical, were soundly healed a few days later, very shortly after which he was able to walk again, and has now resumed his employment.

Believing this to be a case which might give

rise to much discussion as to the propriety of the treatment, I beg leave briefly to remark on one or two points. Of course, the first impression, on finding that we had to deal with a wound of the femoral artery, was to cut down, find the wounded spot, and apply a ligature both above and below the wound; and I have no doubt there are many, who would have sanctioned no other treatment in this individual case. But it appeared to myself and my colleagues that there were two points which should greatly influence us in the operation we should recommend. The first point was the situation of the wound; the second, the state of the patient, only just alive from severe and exhausting hæmorrhage. As we are all aware, the artery near its termination lies at a considerable depth, covered not only by the sartorius muscle, but also by that dense tendinous expansion thrown across from the adductors to the vastus internus. It was thought that to apply two ligatures to the artery in this situation would be at least a tedious, if not a very difficult, operation, especially as the parts were already disturbed by the wound from the gouge, which had penetrated the sartorius muscle. Should there have been much difficulty or delay experienced about the operation, it would at least have increased the chances against recovery, and the loss of even a small quantity of blood might alone have sufficed to turn the scale against our patient, who was only kept from syncope by the constant administration of stimulants. On these grounds it was that we determined, as a first resource, and probably, we thought, only a temporary one, to command the hæmorrhage for the present by the simple operation of a ligature in Scarpa's triangle, being fully prepared, if secondary hæmorrhage should occur, to resort to the more orthodox operation; but trusting that by that time our patient would have at least recovered from his collapse, and have regained some little strength, and so be in a better position to undergo the more serious operation. Nor did we regard it as impossible that, from the extremely exhausted state of the patient, coagulation at the wound might be firmer than usual, and, we fondly hoped, firm enough to resist the feeble contractions of an artery so weakened by excessive hæmorrhage. The result, we hold, has justified our treatment. We attribute the non-occurrence of secondary hæmorrhage to the weakened state of the vessels, the contraction of which was not of sufficient force to displace the coagulum from the wound.

In conclusion, let it not be imagined that I hold up this case as a foundation for similar treatment in the generality of cases of wounds of large vessels. To do so would be to advocate a return to the old Hunterian treatment, long ago, and most properly superseded. I regard the case as entirely exceptional; but should a *similar* case occur, I should have no hesitation in recommending a similar practice. Such cases must of necessity be few and far between, and

would of course, require great care and judgment to be exercised in their selection. In a few words, my deduction from the above case is, that if a large artery be wounded at a point where it is not easily accessible for the application of a ligature, and if at the same time there has been sufficient hæmorrhage to produce extreme exhaustion so as to threaten death by syncope, you may apply a ligature to the trunk of the artery where it is most easily accessible above the wound, not only with the certainty of immediately arresting the hæmorrhage, but also with a very fair prospect of recovery without secondary hæmorrhage.

Stonehouse, Plymouth, August, 1859.

#### REPORT OF AN OBSTINATE CASE OF AMENORRHOEA SUCCESSFULLY TREATED BY THE APPLICATION OF ELECTRICITY.

By CHARLES TAYLOR, M.D.,

RESIDENT PHYSICIAN TO THE WALTON LODGE ASYLUM, LIVERPOOL.

A. B——, aged seventeen, single, was admitted July 3rd, 1858. She is a slight, delicate-looking girl, of middle height and sanguine temperament; the eyes are bright, pupils dilated and she has a puzzled anxious expression of countenance. There is nothing peculiar in the form of the head. The vascular and respiratory organs are healthy, and the functions of the abdominal viscera well performed. The face is covered with isolated pustules on a hardened base, which eruption has existed for some months, and, although yielding repeatedly to treatment, has always recurred. Pulse 100; tongue clean; and steadily protruded; skin cool; bowels regular. The hairy scalp is hot, and communicates a burning sensation to the hand.

The present, which is her first attack, and has been gradual in its accession, commenced about nine months ago, and was characterized in the onset by various peculiarities and eccentricities, which at length proceeded to such an extent as to necessitate her removal from home. She was then placed under the care of a lady in private lodgings in the country. Here she became violent, and personal restraint was rendered necessary on two occasions, for a single day each time; when, becoming altogether unmanageable, it was decided to place her in an asylum.

Her mental malady is marked by an ever-present feeling of distress at the neglect of some duty which she erroneously supposes incumbent upon her to perform. She is constantly proposing to do something far beyond her present powers, and, on failing, is thrown into a state approaching to anguish, which is only relieved by a flood of tears. If thwarted, she screams, exhibits vagrant and violent action of the limbs, or even makes an attack upon some one in her immediate vicinity. The accompanying delusions are various: one, of a fearful character,

refers to a book which she has lately been perusing; another induces her to believe that she will be compelled to work for six days and then rest for six; while a third leads her to press forcibly upon her abdomen with both hands for one hour each day. Slight prolapse of the rectum from which she suffers is probably due in some measure to this insane habit. The memory is good, and there is no defect of articulation nor unsteadiness of gait. She was always wilful and violent in temper, though of religious and strictly temperate habits, residing at home with her friends in the country, and pursuing an active and healthy mode of life. The head symptoms occurred simultaneously with disordered menstruation, and were apparently aggravated by total absence of the catamenia, which has, with two slight exceptions, existed, in spite of the most judicious and energetic treatment, up to the date of admission. Ordered a quarter of a grain of acetate of morphia, with sufficient water to make a draught—to be taken thrice daily.

Aug. 1st.—Is still very excitable, and suffers from a variety of delusions. Pulse 70, weak; skin cool; scalp very hot. Ordered citrate of iron and quinine, two scruples, with water sufficient to make an eight-ounce mixture—two tablespoonfuls, three times a day; acetate of morphia, one grain every night; one tablespoonful of cod-liver oil, and a wine-glass of port, twice daily; liberal diet; a shower-bath each morning, and ice to the head for two hours night and morning.

25th.—Is slightly improved in general health, but continues very confused and incoherent, and is still afflicted with numerous delusions. To have bicarbonate of soda, half a drachm; decoction of aloes and powdered capsicum, of each one scruple; oil of savine, sufficient quantity to form into eighteen pills: two to be taken three times a day, with a full dose of the ethereal tincture of ergot. A hot hip-bath to be substituted for the shower-bath the last week in each month (that being the presumed menstrual period). To continue the tonics and liberal diet, and to take much exercise.

Sept. 25th.—Health decidedly improved, and mental condition ameliorated. The menses have not yet appeared. To have large cupping glasses applied to the inner surface of the thighs each night of the last ten days of the month; a hip-bath, with mustard, as hot as can possibly be borne, to be used each night during the same period: also a teaspoonful of the following mixture thrice daily, with five minims of the oil of savine and an occasional aloetic aperient:—Tincture of cantharides, muriated tincture of iron, and ethereal tincture of ergot of rye, P.E. In the intervals, this mixture to be substituted for the quinine and iron:—Phosphate of iron, one drachm; dilute phosphoric acid, two drachms; water to eight ounces: two tablespoonfuls three times a day.

Oct. 25th.—The general health continues to

improve. Menses still absent. The emmenagogue treatment to be continued through the latter half of each month, in addition to the baths, &c.; and to wear a 60-link Pulvermacher chain, the positive pole on the sacrum, the negative on the groin, with interrupter, for one quarter of an hour night and morning.

Nov. 25th.—Much the same; menses still absent. Two chains of 30 links, each with continuous current—one pole upon the abdomen, the other upon the groin—to be worn two hours night and morning. Hot hip-bath, warm clothing, warm drinks on retiring, exercise, and other emmenagogue treatment to be continued; and, in addition, a pungent solution of strong liquor of ammonia in milk to be injected per vaginam night and morning.

30th.—The chains have produced slight sores, and are irksome. To be discontinued.

Dec. 2nd.—An interrupted current to be applied to the os uteri night and morning, the positive pole being placed over the sacrum; a 30-link chain to be employed, and the links wetted one by one. All other treatment and remedial measures to be discontinued.

6th.—The chain has been applied, with all the links excited. No effect was produced, and no sensation experienced. A 60-link to be substituted, and used night and morning for two days. Much smarting was experienced in the situation of the sacral pole.

9th.—Menses appeared this evening; color natural.

14th.—Menstrual flow continued until this date.

25th.—General health and mental condition have much improved since last report.

June 10th, 1859.—Since last entry, during a period of six months, the patient has menstruated regularly every fourth week. The reappearance of the catamenia was accompanied with considerable improvement in the mental condition, and for some time past she has been sufficiently restored to attend concerts, the theatre, and other public meetings. Occasional fits of excitement somewhat interrupted the progress of the case, but she is now, although not perfectly recovered, and still subject to occasional eccentric outbreaks, well enough to live with the family, converse rationally, and associate with strangers, who do not detect anything abnormal. The pustular eruption, formerly a source of much anxiety, gradually faded, and the face has been for some months quite free from blemish.

On July 22nd the patient was sufficiently recovered to return home, and on the 15th of August I received a very favorable account of her health and conduct from her friends.

In recording the preceding case, my object is not so much to call attention to a valuable, though frequently-neglected therapeutic agent, as to suggest to my professional brethren the adoption of that mode of applying the galvanic current which I found efficacious, and which

believe to possess some advantages over the methods commonly employed. The introduction of an isolated conductor into the os uteri, and the use of an ordinary electric machine, necessitate the presence of the medical man, and involve the exposure of the patient. Being particularly anxious to avoid the latter, I was induced, in the present instance, to use as one electrode a wooden female syringe, perforated with copper wire, and protected by a small piece of wet sponge. The patient having been accustomed to the injection of fluids, this instrument was readily introduced, and by merely attaching one pole of Pulvermacher's chain to the end of the wire, while the other was applied to the sacrum by an elastic band tied round the abdomen, a powerful current was passed at once through the uterus. Common household vinegar is sufficient to excite the chain, no initiation is required, and any patient may thus, in the privacy of her own chamber, as readily direct a current through the womb as inject a stream into the vagina.

In the conduct of the foregoing case I was unnecessarily cautious, as a high power is readily borne. The effect with some patients is immediate, and although that was not the case with mine, I cannot but conclude that galvanization roused the atonic uterus when almost all the usual therapeutic means, carefully applied, had failed.

An eminent physician, who formerly had charge of the patient, states that he had administered all the usual internal remedies, with the effect only of producing a slight and transient flow of the menses on the two occasions already referred to. He was about to use galvanic pessaries, when her mental state compelled him to suggest removal to an asylum. As the friends also consulted other gentlemen well known in the medical world, it is but just to admit that ordinary means had proved ineffectual, even prior to the energetic measures unsuccessfully adopted under my own immediate superintendence.

Kirkdale, near Liverpool.

### ANEURISM OF THE POPLITEAL ARTERY SUCCESSFULLY TREATED BY FLEXION AND COMPRESSION.

By OLIVER PEMBERTON, Esq., M.R.C.S.,

SURGEON TO THE GENERAL HOSPITAL, AND LECTURER ON SURGICAL  
PATHOLOGY AT SYDENHAM COLLEGE, BIRMINGHAM.

The mode of treatment adopted for the cure of popliteal aneurism in the following case exhibits a new feature in the treatment of this deeply interesting and important surgical malady, and from the success which has attended its application, I am led to think that it may not be found unworthy of the attentive consideration of the profession.

J. K—, aged twenty-two, a native of Bombay, possessing all the characteristics of his country, was admitted under my care into the

Birmingham General Hospital on May 10th, 1859, with a tumour in the left ham.

On examination, the swelling was found to be an aneurism of the popliteal artery. It was very large, measuring five inches in its widest diameter. It occupied the entire popliteal space, and projected very much laterally. The pulsation was marked, and distinctly visible at a considerable distance. The hand, laid on the tumour, experienced an appreciable thrill, whilst the stethoscope detected a loud systolic and a somewhat feebler diastolic bruit—not only over the aneurism, but also along the course of the femoral artery. Pressure on the femoral, at the pubic arch, commanded the flow of blood into the tumour, which at once collapsed and disappeared, and then rapidly refilled on the compression being removed. There was no other arterial disease to be discovered, and the heart's sounds were natural.

All the history he could give of himself was, that he had been in this country for the past twelve years, getting his living by hawking small articles from place to place. He had walked a great deal of late, and had noticed the swelling only four months before admission. He thought it must have come of its own accord, as he did not recollect having fallen or received injury on the part. The man was of small stature, lithsome in frame, and possessed the well-defined muscles, free from fat, peculiar to his countrymen. He walked with a limp, and complained of pain on forced flexion of the limb, but handling the swelling did not appear to trouble him. He whined and moaned, and from his general irritability promised anything but a calm patient for operative interference.

Having discussed the features of the case in consultation with my colleagues, I determined on endeavouring to cure the disease by the combination of compression and flexion. Accordingly, in order to accustom him to the influence of the instrument, the mode of treatment by compression was commenced on the 13th of May, the lower pad of Weiss's compressor being lightly fixed on the artery, just as it enters its aponeurotic canal. In a few hours, however, the pressure was removed, as he became restless and irritable.

I now permitted him to smoke as often as he liked, in the hope that his disposition might become somewhat more tractable under the soothing influence of the cigarette. In this anticipation I was not disappointed, the lapse of a day or two sufficing to render him contented and obedient.

On the 16th of May, (having made arrangements by means of relays of dressers that he should never be left for eight-and-forty hours,) at twelve o'clock at noon, I fixed Weiss's compressor, and applied pressure by means of the lower pad to the middle third of the artery; at the same time, turning a bandage around the ankle-joint, I bent the leg as far as it would admit without occasioning pain, and fixed it



firmly in this position by carrying the bandage around the pelvis.

The effect of this combination of flexion and compression was, that the pulsation in the aneurism was reduced to a mere wave, varying from time to time, as the compressing pad was adjusted by the attendant.

Two hours after the commencement of this treatment he became very restless, and complained of a burning pain in the aneurism and down the shaft of the tibia; and despite the permission to smoke, it was with much difficulty he could be kept quiet. Forty drops of the sedative solution of opium were given at five o'clock with good effect.

Towards midnight, between eleven and twelve hours after the commencement of the treatment, he became much quieter, and slept frequently. The pressure exercised by the tourniquet was comparatively slight, the aneurismal tumour having become hard and perfectly free from pulsation. Not the least movement of the leg from the state of flexion had, however, been permitted. There was considerable swelling of the knee, leg, and foot, but he did not complain of much pain. It was remarkable to observe the vehement pulsation of the superficial arteries after the arrest of the circulation through the tumour, especially about the neighbourhood of the internal articular vessels. During the night, the pressure on the artery was removed, from time to time, from the lower to the upper pad; but the amount exercised was merely nominal, as it was quite evident that no blood had passed through the aneurismal tumour after the first twelve hours. A drachm of the sedative solution of opium was administered towards morning, to the great comfort of the patient, who was calm and placid, chatting with his watchers and smoking in the interval of his slumbers.

Throughout the day of the 17th, the same regulations were carried out, without the least deviation, and no annoyance was complained of from the position of the knee.

On the 18th, at twelve o'clock, forty-eight hours from the commencement of the treatment, I removed the compressor, and discontinued the supervision of the dressers. I made no relaxation whatever in the flexion of the knee. There was considerable swelling of the extremity, but no diminution in warmth. I had it carefully wrapped in cotton wool, and warmly covered up with flannel. There was good pulsation in the malleolar vessels, and not the least pulsation to be detected in the aneurism, or bruit along the course of the femoral artery. The articular vessels pulsed strongly.

On the 19th, the flexed position was slightly relaxed, and the entire limb rolled with flannel.

24th.—Further liberty was allowed. The tumour has lost its lateral bulk, and begins to contract. The swelling of the leg is subsiding.

28th.—Contraction going on in the aneurism. The bandage between the ankle and pelvis still

more relaxed, so as to permit of the limb being straightened to the fullest extent the patient desired, without occasioning a sense of pain.

June 8th.—All bandages confining the limb were removed. The aneurismal tumour was firmly strapped with adhesive plaster, and the entire limb accurately rolled.

20th.—He was permitted to get about on crutches. The heel of the affected limb cannot touch the ground to bear weight, but he gets about very fairly, and is entirely free from pain.

In the course of the next ten days, much of the stiffness disappeared, and he soon discarded his crutches, the limb having regained its straight condition, though somewhat larger than its fellow.

Aug. 15th.—The patient has been retained in hospital during the last two months, simply for the purpose of watching the gradual dispersion of the aneurismal sac. He walks with ease, and has no stiffness whatever in the knee-joint.

Viewing the contour of the popliteal spaces from behind, the remains of the sac are plainly marked; its prominence contrasting strongly with the absence of a corresponding swelling in the parallel healthy space, so clearly defined by those slender, delicate, and distinct muscles peculiar to this race of people. It now occupies pretty much the centre of the space, extending, perhaps, somewhat more on the outer than on the inner side. It is very firm and hard, and measures in either diameter, even now, some three inches; so that a good idea can be formed of the once formidable dimensions of the disease.

16th.—Professor Syme, on his way through Birmingham to Edinburgh, whilst visiting the hospital with me, examined the remains of the aneurism, and expressed himself as thoroughly satisfied with the solidity of that which yet constituted the sac, and at the same time conveyed to me his approval of the mode of treatment by flexion that had been adopted in the present instance.

For a long time past, I have been in the habit of applying flexion and pressure in combination in cases of wounds of the palmar arteries. The wound of the vessel has been compressed by a firm roller; the fingers have been laid over this in the flexed position, and maintained there; the hand has been flexed on the forearm; the forearm on the upper arm; movement of the entire extremity has been further rendered impossible by the application of a roller from wrist to shoulder; and the consequence has been, that the happiest results have followed the treatment adopted.

It was this experience that led me to adopt the union of the two methods in the case above narrated. I had not then read the cases as communicated by Mr. Ernest Hart and Mr. Alexander Shaw to the Royal Medical and Chirurgical Society, and published in *THE LANCET* in which these gentlemen had succeeded in effecting a cure of two cases of popliteal aneurism

by the treatment of continued flexion alone. Had I done so, I should have felt inclined to have resorted to flexion, unaided by the assistance of the compressor. As it is, I think that the case is the first, so far as I am aware, in which the combination has been made use of from the first; and the success which has attended its adoption has been such as to lead me to the conclusion, that we may possess in it a means of treatment worthy of attentive consideration. I consider, however, that to flexion was the cure mainly due in this instance, as the use of the compressor was little more than an adjunct—at hand, to be called for in case of necessity arising. This conclusion is justified when it is considered that the pad of the compressor was never applied with severity, and that the amount of pressure exercised by it at first was decreased, instead of being gradually increased in order to control the circulation through the aneurism.

If we review the state of tumour during the first twelve hours from the commencement of the treatment, I think this conclusion will become inevitable. From the first, absolute flexion was established; compression was but partial. The circulation was reduced to a mere wave, which disappeared, and never reappeared after the first eleven hours. The compression was never, during the whole of this period, or subsequently, changed in its character; whilst the flexion was maintained unaltered in the least degree for the first three days, and then only slightly relaxed for the ensuing five.

In the case narrated by Mr. Ernest Hart,\* the pulsation terminated on the fifth day. In Mr. Shaw's case†, it was not until the thirty-eighth day that the pulsation in the tumour altogether ceased. In neither of these cases was the aneurism half as large as in the case I have described, and yet there was no pulsation after the first eleven hours. The continued flexion of the knee did not appear to cause suffering, but there was considerable difficulty in recovering the straight position of the limb, which is not to be wondered at, when it is considered that for twenty days it was more or less retained in the flexed position. In a smaller aneurism, so long a maintenance of this position need not be called for; but in one of dimensions so considerable as this, there cannot be too great a care exercised to secure the solidity of the contents of the sac until their permanent removal becomes no longer a question of any anxiety or doubt.

I do not think that the position of the aneurismal tumour in the upper or lower course of the popliteal artery will be likely to affect this treatment by flexion. Extreme flexion will, in either case, arrest the circulation with equal safety, as the anastomosis of vessels is quite as abundant above as below the knee; indeed, we may attribute much of the success which at-

tends the cure of popliteal aneurism to the varied character of the communications established, in the case of the obliteration of that trunk, between articular vessels and the muscular arteries in both thigh and leg.

An unfortunate issue, in one respect, to the reputation of this treatment has occurred in the practice of Mr. Moore, of the Middlesex Hospital.\* A large aneurism of popliteal artery—but not a larger one, judging from the description, than the one I have recorded—after having been submitted to incomplete flexure, as well as pressure, for about twelve days, burst through the ligamentum posticum into the knee-joint. Happily, this serious complication did not prevent the patient's recovery, for the artery was tied, the aneurism was cured, and the knee-joint recovered its usefulness. The opening in the artery was here supposed to have been situated on its anterior aspect, or that immediately contiguous to the ligament, so that extreme flexion would have a tendency to relax the artery behind the aneurismal tumour, in opposition to stretching it over where the opening might be situated posteriorly. In such a case, it is inferred that the treatment by flexion would not be indicated. That there will be cases of popliteal aneurism which neither pressure nor flexion, nor the two in combination, will cure, every one will admit; but supposing we were able to discriminate the situation with any degree of accuracy of the primary opening in the artery, must not, after all, the favourable issue of the case depend entirely on the ability possessed by the treatment applied to absolutely, sooner or later, restrain the current of blood flowing through the aneurismal tumour? Mr. Moore's patient seems never to have borne either flexion or compression with any degree of satisfaction either to himself or his attendant; on the contrary, the disease went on increasing rapidly, so as to necessitate the operation at length so successfully carried out.

This mode of treatment by flexion may not be so likely to succeed in mature subjects as in young adults; and, unquestionably, the flexibility of the muscles and joints in all must be a first consideration in its selection, as we are not likely to meet materials so elastic to work on in the frames of even our English labourers as those possessed by my lithsome Asiatic, whose powers of genuflexion so eminently contributed to his cure. It is also not unworthy of remark that the continued indulgence in smoking, combined with the administration of powerful doses of opium, appear to have contributed not a little to the favourable issue in this instance.

Birmingham, Aug. 1859

\* British Medical Journal, June 15th, 1859, p. 479.

\* Vide July No. p. 39.

† Idem.

## THE LATE TRIAL OF SMETHURST.

## ON DIARRHŒA AND DYSENTERY COETANEOUS WITH CONCEPTION.

By G. F. GIRDWOOD, M.D.,

ONE OF THE MEDICAL WITNESSES CALLED FOR THE DEFENCE

Every member of the medical profession must feel desirous of raising its character from the state of humiliation into which it has fallen by the trials of Wooler and Palmer formerly, and latterly by that of Smethurst. Having been, on the last trial, subpoenaed as a medical witness, I had an opportunity of forming an opinion of the value of the testimony presented to the jury by the profession.

A witness-box is not a place where the profession is exhibited to the best advantage. Questions are put in a form that necessitates an answer which is sometimes characterized by words so dogmatical as to fail to express a logical reply. Some explanation of this sort may, perhaps, best account for the extraordinary unanimity shown by the medical witnesses for the prosecution in their reply to a question put to them all in similar terms, and which question was answered alike by them all, excepting one gentleman, without reserve and qualification. The question was this: "Can you account for these symptoms by any other means than an irritant poison?" Answer, "No." Of course such unanimity, one would naturally conclude, must be the result of a great number and variety of cases, occurring in one's own practice or in that of others, being combined and compared together after mature and deliberate reflection, and founded on extensive professional experience. Was this so? On the contrary not one of these gentlemen had seen a case of disease and death caused by slow and irritant poison. More than that: not one of them had even seen a case of diarrhœa ending in dysentery and concomitant with pregnancy. More than that: in this very case the pregnancy of the unfortunate patient was not discovered by them—no, not even suspected by them—during life.

Cases of diarrhœa and dysentery coetaneous with conception are certainly rare, but this very rarity should prevent an opinion so dogmatical being uttered as was so repeatedly expressed. The language was strong, but the logic was weak.

The same difficulty that I have already alluded to, respecting the position of a medical witness in a court of justice, was to those professional gentlemen who appeared for the defence aggravated by the continual interruption of the judge in their examination-in-chief. Of this interruption the counsel for the prisoner was obliged to complain frequently, and justly so, for it had this great inconvenience, that the facts were often stated disjointedly, and the statements of the witnesses thus deprived of much of their value. In my own instance this was ex-

perienced; and as the cases that had occurred under my own observation were from this interruption not detailed *in extenso*, it has appeared to me that they may be considered as not unworthy of notice, from being relevant in a remarkable manner of a very interesting but fortunately rare and dangerous condition of the state of pregnancy.

Very early in practice a case occurred to me that was, as it were, the germ of the experience subsequently obtained. It was that of a lady who, shortly after marriage, ceasing to menstruate, was afflicted by a most irritable diarrhœa, in addition to the sickness that supervened on the cessation of the catamenia.

This symptom was treasured up in my memory. Besides six mature children that this patient has given birth to, she has had also two miscarriages. In all these eight conditions of pregnancy, at the first stage—at the first hour, it may be said—of conception, this diarrhœa set in; and so regularly was it the concomitant of the pregnant state, that it became in my mind associated with conception *as cause and effect*.

A diarrhœa will be found in the unimpregnated female occasionally with dysuria, as a symptom of impending catamenia; nay, it will occasionally be found *vicariously of this discharge*.

This last fact presented itself to me also, some years ago, under very singular circumstances. A young woman of very florid complexion applied to me, suffering from much constitutional excitement. Although I understood that for three years she had been married, and was then twenty-two years of age, I learnt that she had never menstruated. A careful examination led me to ascertain the fact that she had *no uterus*. Now, the state of excitement I was then called on to treat, as well as many other attacks she has had since of a similar character, have always ended and been relieved by diarrhœa. I could not help associating these attacks of periodic excitement with the orgasm induced by the periodic maturation of an ovum in one of the ovaries, of which important organs, from her feelings as well as form, I have no doubt she is not deprived, although she be deficient of uterus.

Fifteen years ago I was summoned to a young lady, three weeks after her marriage. She expected her period hourly. Instead of it she was attacked by vomiting and purging, the purging slightly tinged with blood. I conjectured pregnancy, and expressed my opinion to that effect. It was a correct one. In due time she became a mother, the reckoning being calculated from the date of my visit.

A lady, of very delicate habit, very spare, who, besides two children at full time, had had several miscarriages, was attacked with a diarrhœa that became dysenteric. It presented a very formidable character. Although the catamenia existed, yet from the hardness of the breasts, and darkness of the areolæ, pregnancy was suspected. On further inquiry the uterus

was found enlarged. Her sufferings were excessive. The exhaustion was extreme; the disease most intractable. But at the end of the fourth month an abortion occurred, and from that time a gradual amelioration took place.

But the most interesting case—the one most germane to the late trial—is that of Mrs. D——, who had had one child, now eight years of age, and four miscarriages. I was called to treat her two years ago, under a severe dysenteric attack, accompanied with excessive vomiting. I found she had passed one period without the appearance of the catamenia. She was extremely hysterical; she had a very excited expression of countenance; she complained of burning sensation in the throat and stomach; the globus hystericus was a prominent symptom. Every attempt to swallow was accompanied with great agony, owing, I conjectured, to the reversed action of the stomach and smaller intestines, and nothing whatever that she swallowed remained for an instant on the stomach. The experience possessed by the observation of the cases already detailed, convinced me that all the symptoms I witnessed in this fresh case were owing to conception, and that this was an irritation of the mucous membrane, not only, as is generally the case, of the upper part of the intestinal canal, but of the tube in its entirety, and having relation to conception just as *effect* has to *cause*. As in those cases I have already treated, these symptoms were viewed by me as evoked by the existence of a new duty in a delicate frame, impatient and rebellious of the duty it was called on to undertake, and which duty it resisted to undertake, with a distressing and dangerous obstinacy. Again, in my mind, cause and effect stood out in strong relief.

A minute examination of the symptoms was made, the hand carefully moved over the abdomen, and pressure firmly applied; tenderness was discovered in the region of caput cæcum. Leeches were applied there—two, four, six—from time to time, until the tenderness was overcome. Opiate suppositories were introduced into the vagina and rectum. Chloroform was applied freely externally. No medicine whatever was administered by the stomach, as irritability forbade the exhibition of any drug, or even food. In all, upwards of forty leeches were applied before the subsidence of the symptoms. The state of exhaustion, consequent on the loss of blood as well as the privation of food, was extreme; but I had the satisfaction of seeing the danger gradually abate. At the end of two months, being then about four months advanced in pregnancy, she required no further treatment, and the weakness became daily less. At the ninth month her confinement occurred.

Amongst the other acts of omission, as well of commission, that are to be lamented as having occurred in the treatment of the case of Miss Bankes, one of much importance must not be unnoticed; it is, that during the life of the lady

the urine was never analyzed. Neither to Dr. Julius, nor to Mr. Bird, nor to Dr. Todd, nor, lastly, to Dr. Taylor, did the idea ever occur of examining this important secretion. Had that been done the moment suspicion was excited, either this fact must have been proved or its converse: either that she was under the influence of slow poison, or that she was not. Of this there can be no doubt, that in this secretion, if poison with the blood was circulating in the system, the presence of any one of the three poisons conjectured by the witnesses to have been administered to the deceased must have been, by a competent analyst, readily discovered, and that discovery effected in a short time—a very short time indeed—after its administration. Suspicion in a case like this ought to be the synonym of action.

As an example of the certainty and facility of such an inquiry, it may be stated that in a case of suspected poisoning by corrosive sublimate occurring a few weeks ago to the author of these remarks, the urine was taken away immediately, and at once conveyed to the hands of that scientific and able analyst, Mr. Rodgers, who in a few hours produced from it the proof, in the shape of a small globule of mercury, that the suspicion was correct.

But, in conclusion, to recur to the cases I have related of diarrhoea ending in dysentery coetaneous with conception. Supposing any of these cases had come under the observation of the medical witnesses for the prosecution, and more especially had the case of Mrs. D—— been treated by them,—a case so remarkably resembling in symptoms those that were noticed to exist in the case of the ill-fated Miss Banks,—would they, one and all, have concurred in declaring on their oath that “*nothing but an irritant poison could have produced them?*”

Howley place, Maida-hill, 1859.

## ON A CASE OF DEATH FROM SLOW POISONING.

BY JOHN W. OGLE, M.D., F.R.C.P.,  
ASSISTANT-PHYSICIAN TO ST. GEORGE'S HOSPITAL.

The opportunities are so infrequent of witnessing the effects upon the human body of irritant mineral substances, administered so gradually and insidiously as eventually to produce death by poisoning, that I think no apology is needed for the recital of the following case. Moreover, I send the history of the case, inasmuch as it appears to me, that at a time when the subject of “*slow-poisoning*” is of such grave importance that the very question of life or death is at stake,\* it is the bounden duty of every medical man, as a citizen, to contribute even the most insignificant observation or fact which may in the very slightest degree illustrate the matter, or assist the careful and critical

\* Unfortunately, I did not communicate this case until too late to appear in the last week's impression.

inquiries incumbent upon those with whom remains the deep responsibility of furthering the ends of justice. The following case is one which occurred in St. George's Hospital in the year 1850, and its particulars were as follows:—

The patient, a man aged forty-five, was brought into the hospital, dead, having inflicted two or three wounds through the integuments and superficial muscles of the throat, in the hope of killing himself. Twice previously, also, he had been known to attempt suicide. He had been a "hard drinker," and had been in the habit of taking laudanum on his own responsibility, owing to attacks of delirium to which he was subject. He had also being subject to "sore eyes," and, as a remedy, he had been in the habit of applying a solution of sulphate of zinc to them, the poisonous properties of which he was obviously conversant with, as he had remarked to a person some time previous to death, that in what he was using there "was enough to poison half a hundred men." It was stated that during an entire week before his last attempt to commit suicide he was observed to be very ill, and that he frequently vomited. He also was said scarcely to know what he was about. On the evening before his death, he was very tremulous, and apparently delirious, and shortly before going to bed he was violently sick after taking some brandy-and-water. He was found in bed the next morning with his throat cut, and scarcely able to speak. He died whilst being removed to the hospital.

On examining the body after death, it was found that although the patient had lost blood from the wound of the neck, yet no deep vessels had been implicated. The course of the alimentary canal was especially scrutinized, and the following appearances were observed:—The mucous membrane of the epiglottis, œsophagus, &c., was slightly congested, and its surface was thickened in patches and of a greyish-white colour. The lining of the mouth and fauces had a white appearance, and the tongue was pale and shrivelled. The stomach was contracted, and contained about an ounce of whey-like fluid. The whole of its inner surface was of a nearly uniform dirty-grey colour, the mucous membrane being "very greatly thickened, condensed, and indurated, and altogether having a singular appearance, very similar to that of a piece of tripe."\* The lining membrane of the small intestine was very vascular, and, in the duodenum and upper part of the jejunum, of the same grey color and altered texture as the inner surface of the stomach, *but in a much less degree*. The colon and rectum were unusually contracted, and their inner surface smeared over with a white, curdy substance, but the coats of the gut were of healthy appearance. Besides fulness of the vessels of the brain and cerebral membranes, and congestion of the lungs

and kidneys, nothing of importance, beyond what has been said of the stomach and intestines, &c., was observed in regard to the various organs of the body. The blood generally was very fluid. I ought, however, to have said that the left ventricle of the heart was found to be contracted, the other cavities containing dark fluid blood.

*"An analysis of the contents of the stomach was made, and sulphate of zinc readily detected."*

*Remarks.* In the above case, the history, the known frequent attempts to commit suicide, the obvious knowledge which the unfortunate man had of the poisonous properties of the sulphate of zinc which he was in the frequent habit of using, the attacks of vomiting before death, and the very unusual morbid appearances of the stomach and upper bowels found after death,—all these facts, taken in conjunction with the ascertained presence of sulphate of zinc in the contents of the stomach, naturally and justifiably led to the supposition that the patient had been in the habit of taking sulphate of zinc for purposes of self-destruction, and that the inflammation of which the coats of the stomach and bowels were the seat must have been of somewhat long standing, and attributable to the irritating influence of the sulphate of zinc taken internally.

Agreeing with this supposition (for the unwonted appearances of the mucous membrane of the stomach and bowels were not such as are produced by ordinary inflammation or by the use of brandy, gin, &c.), two points of interest are especially noticeable in the case:—

1st. That amongst the morbid appearances induced by the inflammatory process slowly set up by the poison, *nothing like ulceration* existed; and,

2nd. *That the morbid effects were infinitely more apparent and decided in the stomach than in the intestines*; for although the intestines were affected, yet it was only to a slight extent at their upper part, and this only to a slight degree.

These two points appear to me to be of great interest in connexion with the action of one of the mineral poisons (sulphate of zinc) upon the human frame; and without enlarging further on the subject in general, or upon this instance in particular, I will leave the case as a contribution to the common fund of medical facts bearing on the poisonous effects of mineral agents.

Upper Brook-street, Grosvenor-square, August, 1859.

## ON THE REGISTRATION OF BIRTHS.

By J. MATTHEWS DUNCAN, M.D.,  
LECTURER ON MIDWIFERY, &c.,

It is likely that the subject of the Registration of Births, Marriages, and Deaths, will soon again occupy the attention of Parliament and the country, for it is generally believed that the Government intend to lay before the House of Commons a measure for extending to Ireland a

\* From the notes of Mr. Holl, who made the post-mortem examination.

system of registration similar to what is already established in England and Scotland. It is surely very desirable that advantage should be taken of this opportunity to have any needful amendments made in the English and Scotch Registration Acts, and to have set on foot in Ireland a system altered from the English and Scotch models so far as these are found to be deficient or faulty. If the matter be not undertaken with zeal, and in a proper spirit, there is great risk of the love of uniformity and the facility and security of imitation leading the framers of the proposed Bill for Ireland to copy the Acts for the sister countries too closely.

A very curious examination of medical literature will be sufficient to satisfy any qualified observer that statistics are, first, very often undeserving of the name from the illogical and careless characters of their structure; and, second, that, supposing them to be intrinsically good, they are so improperly used as to induce the suspicion that in the science of medicine they have done much more harm than good. On this second point I do not wish at present to say a word more. My object is to attract the attention of the profession to this subject with a view to its influence being used to improve the statistics yearly offered to it by the Registrars-General. Medical men are the ants by whose labors the yearly hill of numerical data is accumulated; and it is their right as well as their duty and interest to ensure, as far as possible, that their labors be not in vain from being misdirected.

It is very evident that the conditions under which the data in the Registrars' returns are collected are such as to make an immense difference between their possible and their real value and utility. For the purposes of a scientific medical induction they are worthless in almost every respect. But although this is the case, they supply many general statements of great value.

The registers of childbirth have often attracted my attention, with a view to extracting information from them, but as often have they failed to afford me any satisfaction. As they are at present, they seem to me to lead to little else than error. For instance, when the number of births is given for Scotland (and the remark applies probably equal to England\*), it is a figure the import of which it is very difficult to state. It is not the number of births, for still births are not included in the number. It is not the number of live births, for different registrars hold and act on different opinions as to what still-birth means. It is not the number of live births at the full time, for no rule whatever is laid down as to the degree of prematurity excluding from the register. What is it? In like manner the so-called number of deaths from childbirth indicates anything but what it proposes; for while there is no rule as to the degree

of prematurity of the fœtus born, if any, excluding from the column of childbirth deaths, there is no security against cases being entered under such heads as fever, peritonitis, convulsions, hæmorrhage, erysipelas, abscess, &c. &c. Obstetricians, some of them very eminent, have extensively used these statistics in scientific discussions, and it is pitiful to consider what rubbish such discussions must be.

The esteemed registrars for England and Scotland are in no respect to blame for the erroneous and absurd uses made of the statistics they publish, and have but limited power to change and improve the rules of registration at present in force. Numerous possible and desirable amendments cannot be secured for evident reasons. It is only those that are very urgently demanded, and may be carried out without much additional labor and expense, and without introducing other evils, that the profession is entitled to expect.

In the course of last summer this matter engaged the attention of the Royal College of Physicians of Edinburgh, and a memorial on the subject was forwarded by that body to the Registrar-General for Scotland. Amongst other things, this memorial contained suggestions which appear to me easily reducible to practice, and calculated to remove, to a very great extent, the evils of the present method of registering births and deaths from or after childbirth.

The memorialists recommended a modification in the way of obtaining certain of the existing returns with reference to the registration of births. Aware of the necessity of reducing to the greatest simplicity the information demanded from the public, they were deeply impressed with a sense of the existence of imperfections in this portion of the register, such as are constantly leading to a variety of erroneous assumptions, and almost completely annihilate its usefulness in illustrating the study of the theory and practice of medicine. The imperfections were described by saying that they would be to a great extent removed by cancelling the vague and indefinite regulations at present in force, directing the non-entry in the register of still-born children, and the entry of every child born alive; and enjoining, instead, the registration of the births of all children of viable age, whether alive or dead, and of such alone; and attaching to the term of "live birth" a distinct definition. The memorialists added, that it would be very desirable that the register of deaths of females should record "childbirth," in addition to the cause of death, in every case, where a woman has borne a child of viable age within four weeks before her decease, even though the death have been through some disease or casualty manifestly unassociated with her labor. This improvement of the present system would involve only an inconsiderable addition of labor or trouble to the public or the keepers of the register.

In this answer to the memorial of the College,

\* See a paper by Dr. Barnes (*Dublin Quarterly Journal*, Aug. 1849,) for many valuable remarks on this subject.

the Registrar-General expressed his anxiety to keep the Registration in Scotland and England as nearly alike as possible; and his belief that his powers to alter were so limited as to prevent his granting the petition of the memorial, even if he approved of its object.

Under all these circumstances, it appears to me very desirable that the profession, and especially the influential corporations and the British Association, should now consider the subject, and if they deem improvements desirable, memorialize the Home Secretary regarding them.

Edinburgh, Aug. 1859.

ON A CASE OF LARGE CALCULUS REMOVED FROM THE URETHRA OF A BOY ON WHOM LITHOTOMY HAD BEEN PERFORMED FIVE YEARS PREVIOUSLY.

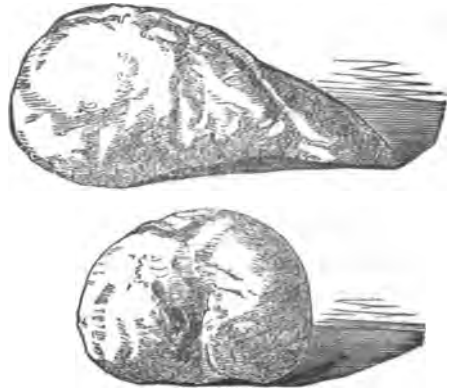
By CHRISTOPHER HEATH, Esq., M.R.C.S.,

DEMONSTRATOR OF ANATOMY IN THE WESTMINSTER HOSPITAL, AND SURGEON TO THE ST. GEORGE'S AND ST. JAMES'S DISPENSARY.

John H——, aged fourteen, was sent to me by Dr. Grigor, of H.M.S. *Queen Charlotte*, having been refused admission into the navy on account of a tumor in the perinæum, which rendered him unfit for the service. The tumor was quite hard, of about the size of a walnut, and projected at the back of the scrotum, in the median line, but was capable of being moved slightly from side to side. It was apparently a calculus impacted in the urethra; and the diagnosis was confirmed by passing a catheter, which impinged upon the stone. There was a constant mucous discharge from the urethra, and the stream of urine, although of considerable size, was twisted. The boy said that it had existed eight years (subsequently found to be an error), and gave him little inconvenience except somewhat sharp pain occasionally after passing urine. He was anxious, however, to get rid of it in order to go to sea.

The stone being evidently too large to admit of extraction per urethram, I resolved to remove it by incision; and accordingly, on June 29th last, the boy being under the influence of chloroform, and in the lithotomy position, I steadied the stone with the left hand, and cut upon it in the median line. The incision was about two inches long, and encroached on the back of the scrotum for about half that length. The wall of the urethra was found to be very much thinned, and was laid open (in the bulbous portion) to the extent of about an inch and a half, when the stone was easily removed with the finger. One small artery required ligature, and a sound passed into the bladder detected no other stone. The calculus was of remarkable shape, closely resembling the head and beak of a bird. It measured rather more than two inches in length, and not quite an inch and a quarter across at its broadest part, and was placed with the large end farthest from the bladder, and its upper surface flattened against the corpora cavernosa, by

which it was distinctly marked. It weighed when extracted above seven drachms, but when thoroughly dried exactly five drachms and a half.



The boy made a perfectly good recovery; but the wound was rather long in healing, probably owing to the size to which the urethra had been dilated. A day or two after the operation there were swelling of one of the testes and a little inflammation about the scrotum, but these soon subsided. No catheter was introduced after the operation; but about three weeks after, the urine not coming so fully by the urethra as I wished, a No. 5 elastic was introduced, and retained for a few days. The boy was finally discharged on the 11th August, with the wound healed, and very little thickening remaining, and able to pass a good stream of urine.

Having learnt from the patient that some years ago he was in King's College Hospital, I searched the register of that institution, and found that he was admitted, under Mr. Partridge's care, in January, 1854, with stone in the bladder, the symptoms of which had existed three years. Mr. Partridge performed the usual lateral operation of lithotomy (the scar of which can still be seen) on the 3rd February, 1854, and extracted one stone. The boy made a good recovery, and was discharged on March 10th.

This case is unusual, both from the shape and size of the stone, and from the fact that the patient had previously undergone lithotomy. The only parallel case I have been able to find is one related by Mr. John Ward, of Bodmin, at the North London Medical Society (*THE LANCET*, Nov. 4th, 1854), in which he removed a calculus "from the cellular tissue of the scrotum" of a man who had been lithotomized three years previously.

On section, the calculus appeared to be composed of phosphates, with a few streaks of uric acid (as, for instance, in the dark portion near the apex), and it would appear probable that when of small size it had passed through the neck of the bladder; dilated by the previous operation, and become fixed in the bulbous portion of the urethra, the original nucleus being quite at the anterior part of the section of the stone, and its bulk formed by deposit reaching



backwards towards the bladder. It is remarkable that the boy should have suffered so little inconvenience, and been able to pass so good a stream of urine, with the urethra so completely blocked up.

Backville-street, August, 1859.

## ON PERITONITIS IN RELATION TO UTERINE PATHOLOGY.

By E. J. TILT, M. D., M.R.C.P.,

SENIOR PHYSICIAN TO THE FARRINGTON GENERAL DISPENSARY AND LYING-IN CHARITY.

(Continued from October No. page 299.)

The frequent occurrence of pelvi-peritonitis is shown by the frequency of bands and adhesions in the female pelvis. Of the 97 cases met with by Dr. Bernutz, 43 were puerperal, 35 occurring in the fortnight which followed parturition or coming on after abortion. Twenty-eight instances were caused by blennorrhagia; 20 could only be referred to some derangement of the menstrual functions, 6 were brought on by some other causes which I shall soon enumerate. The puerperal state, and the lesions to which the pelvic organs are liable in parturition, even when instruments are not used, explain the frequency of pelvi-peritonitis after parturition; it is in general, chronic from the beginning, resembling those instances of latent pleurisy which are only detected long after the first period of their development. If 28 cases are said to have owed their origin to blennorrhagia, it must be borne in mind that for two out of the three years in which these cases were collected, Dr. Bernutz's field of observation was l'Hôpital de l'Ourcine, whereto, in Paris, are directed all syphilitic patients who apply for relief, and who are not prostitutes. This transmission of inflammation, during the course of blennorrhagia, to the ovary was known to Morgagni by post mortem investigations. It is considered to be not an uncommon occurrence by Bochoix, Pistocci, Ricord, Mercier, and Mr. Acton. I bring authorities in support of my own experience, because the occurrence of ovaritis during the progress of blennorrhagia is not generally admitted by the profession in England, and is contested by Professor Simpson of Edinburgh.

The great liability of the Fallopian tubes to inflammation is placed beyond doubt. It so frequently leads to obliteration of their distal ends, that some anatomists of the seventeenth century considered this to be their normal condition. The adhesion of the oviducts to the ovary by a false membrane is also very common, and is a result of the extension of inflammation spreading to the fimbriated extremities, causing peritonitis and the exudation of those false membranes by which the oviduct and ovary become intimately and permanently connected. The structure of the Fallopian tubes is sufficient to explain their liability to inflammation; for anatomists tell us that no adequate notion can be formed of the richness of their blood-supply, until, after a suc-

cessful injection, the parts have been dried in balsam. The bloodvessels are then seen converging towards the fimbriae, upon and in the substance of which they lie as thickly as the pile of velvet,—an exuberance of vessels which has led some to believe that the oviducts possessed an erectile tissue.

With regard to the period of the blennorrhagia at which peritonitis appeared, it was ascertained, in 15 out of 28 cases, that the attack occurred in one case about the tenth day after the beginning of the infectious complaint; in another, on the twelfth; in three cases, about the fifteenth; in one, on the twenty-first; in seven, about the twenty-eighth day; in one, six weeks, and in another, eight weeks, after the onset of the contagious disease. From this, it appears that the attack of pelvi-peritonitis is generally brought on by the recurrence of menstruation; but in some cases the attack could be traced to over-fatigue, or to the continuance of connexion notwithstanding blennorrhagia. Not only does menstruation often determine peritonitis during the course of blennorrhagia, but in 20 cases no other cause could be found, except a morbid condition of the menstrual function; the attack sometimes coming on after the sudden suppression of the menstrual discharge, and at other times supervening after an unusually scanty flow.

With regard to ovaritis originating in ovulation, few will deny the possibility of this occurrence if they have ever held in their hands the ovary of a woman in whom the process of ovulation was actively progressing at the time of death; for they will remember the projecting follicle the diameter of which has increased from three lines to from five to eight lines,—a soft and fluctuating projection with a central point of brickdust hue, surrounded by its rich plexus of vessels, and where the follicle would soon have burst. Those who have carefully studied this wonderful process will be ready to admit that, from being a strictly physiological process, it may sometimes become pathological, and that ovulation may, like dentition in children, be associated with inflammation. My views on this point have been for some years before the profession, so I prefer to support them by a quotation from Dr. A. Farre's admirable article in the "Cyclopedia of Anatomy and Physiology." "How closely the process of ovulation, in its more obvious conditions, is allied to inflammation, has already been shown. A high degree of vascularity of the part, with increased exudation of fluid and consequent enlargement and tension of the entire organ, terminating in spontaneous laceration of its coats by a process very similar to ulceration, and often preceded and accompanied by a more or less considerable escape of blood: these, together, form a combination of series of processes closely allied in their nature to inflammation, and frequently evidenced by signs usually regarded as characteristic of inflammatory action."

Seven out of the 97 cases of pelvi-peritonitis could not be classed in the previous divisions; two cases occurred after the use of the uterine sound, one after the douching of the vagina with cold water, two after venereal excesses, and two during the progress of chancre on the neck of the womb.

*Symptoms and Diagnosis.*—Pain more or less intense, and localized in the iliac regions, is one of the first symptoms; it is exasperated by the patient's movements and by pressure. There is sometimes an initial fit of shivering, with small pulse and slight fever. Vomiting seldom occurs; but there is nausea, with loss of appetite, constipation or diarrhoea. At first a digital examination is very painful, and, as it is moreover useless, it had better be deferred until after a few days, when the pain and other symptoms have abated. Then the finger will detect that the lower part of the neck of the womb is more or less encircled by a semi-elastic tumefaction, closely connected with it, but still frequently separated from the neck of the womb, as by a groove. This tumefaction seldom extends to both the vaginal cul-de-sacs, so that by directing one's attention to the one left free, and by combining the abdominal with the vaginal palpation, it is possible, in general, to make out how far the womb is displaced or bent upon itself, and likewise the extent of the swelling, which most frequently occupies the recto-vaginal space, and sometimes seems to form wing-like projections on each side of the womb. An important distinctive character of pelvi-peritonitis is its peri-uterine situation; it surrounds the womb, and does not rise above the rim of the pelvis, except in protracted cases, in which repeated attacks have produced large accumulations of false membranes; whereas in phlegmonous affections of the broad ligaments, inflammation soon extends more or less to the cellular tissue lining the iliac fossa; the swelling soon rises from the pelvis, and often implicates the abdominal walls. This distinction is of great importance, for the other local symptoms are claimed alike for peri-uterine phlegmon and for pelvi-peritonitis by equally good observers.

*March and Terminations.*—I have described a first attack of pelvi-peritonitis, which is generally cured in healthy subjects from the eighth to the fourteenth day, but will be protracted in the sickly, and is in all cases very liable to relapse at the ensuing menstrual periods. These relapses are evidently caused by the active turgescence of the abundant bloodvessels which subserve the menstrual function. Indeed, these relapses do not occur when menstruation has been permanently checked by phthisis or any other constitutional complaint. This liability to relapse had been already claimed as a character of peri-uterine phlegmon by Mr. Gosselin; but it is a singular property to ascribe to phlegmonous inflammation, whereas, in connexion with peritonitis, the occurrence of frequent relapses harmonizes with all we know of chronic inflammation of

serous membranes, and of their liability to frequent inflammatory exacerbations.

Repeated attacks of pelvi-peritonitis may cause the neighboring organs to adhere, so as to form solid tumors, distinctly felt in the hypogastric region, the diagnosis of which is sometimes exceedingly obscure. I remember hearing it stated by Grisolls, that he had often had sent to him as instances of ilial abscess, cases in which there large accumulations of false membranes in the iliac regions. Sometimes the tumor thus formed is sufficiently large and central to have been mistaken for an ovarian tumor, and gastrotomy has even been performed under such circumstances. When a digital examination is made at this stage of the complaint, the peri-uterine swelling is no longer uniformly semi-elastic; it has become irregular and knotty, owing to the absorption of the serum and the condensation of irregularly deposited false membranes. It may happen, particularly after parturition, that the unhealthy state of the blood may change the character of the peritoneal outpouring. Instead of being sero-adhesive, it becomes purulent, and the pus accumulated in the recto-vaginal pouch finds vent by small openings into the vagina or the rectum, a circumstance which does not alter the prognosis, unless the patient's health is seriously impaired.

*March and terminations of pelvi-peritonitis.*—Pelvi-peritonitis seldom leads to a fatal termination; but if it be long protracted, there will ensue a state of anæmia, and a general breakdown of health. This condition may be hastened by floodings, or by long-persisting uterine inflammation and discharges; and, as might be anticipated, an endless variety of nervous and hysterical symptoms will then make their appearance. These are the worst consequences of pelvi-peritonitis, but the large majority of patients recover without experiencing, in after-life, any inconvenience. This is evident from the fact of our so frequently finding, at post-mortem examinations, pelvic bands and adhesions which had not in any way interfered with health. Those, however, in whom repeated attacks of pelvi-peritonitis have developed solid unyielding bands, awkwardly attached, remain ever liable to serious accidents. Thus it has been affirmed by Rokitsansky and others, that women were subject more than men to incarceration of the bowels, owing to their becoming obstructed by one of those strangulating brides, as in a case related by Dr. Renaud, of Manchester; and Dr. Brinton has lately stated, in the admirable lectures delivered at the Royal College of Physicians, that intestinal obstruction by bands and adhesions on the diverticula or the peritoneum external to the bowel, might be estimated at 31½ per cent.

Displacements of the womb are much more frequently caused by pelvi-peritonitis than is generally admitted, and it is obviously absurd to treat such cases by intra-uterine pessaries. Thus, I found the womb drawn up by bands,

uniting its fundus to the anterior walls of the abdomen. Huguier has found latero-flexions of the womb to be caused by pelvic adhesions; and if, as Dr. Oldham has correctly observed, dysmenorrhœa induces retroversion, it is sometimes owing to peri-uterine inflammation, and subsequent adhesions. Struck by the frequency of adhesions when the womb is in a state of flexion, Virchow has even supposed that the uterus was bent upon itself by the bands originating in peritonitis; but I rather look upon them, with Scanzoni, as complications determined by the prolonged flexion of the womb. In some cases, false membranes so bind down the womb as to render permanent its flexion, and any attempt to correct it dangerous. It is said that partial atrophy of the womb has been likewise caused by the pressure of voluminous false membranes. In like manner, if part of an ovarian tumor becomes inflamed, it often brings on local peritonitis in the corresponding portion of the peritoneum, thus producing those adhesions so difficult to detect, and which have so frequently prevented the removal of ovarian tumors after the operation of gastrotomy. Cancer of the womb is generally associated with pelvi-peritonitis, by which it becomes more or less immovably fixed.

Again, there is no more frequent cause of sterility than pelvi-peritonitis. This has been long well-known to the profession, and in a paper which I had the honor to read before the Westminster Society, I explained how peritonitis caused sterility sometimes by thickening the serous covering of the ovaries, and so embedding them in false membranes, that it became difficult, or impossible, for the ripe follicle to burst, and let fall the germ. Sterility, however, still more frequently depends on the occlusion of the distal ends of the oviducts, or on their permanent adhesion to some portion of the pelvis, so that the germ cannot be conveyed to the womb. In this way many women become sterile who are not so reputed, because they have had one or more children previous to an attack of pelvi-peritonitis. Sometimes the womb is so tightly bound down by adhesions, that its development after impregnation is prevented, and abortion ensues as often as conception takes place.

This imperfect sketch must not be concluded without pointing out some of the instances in which the conservative agency of local peritonitis is apparent. Should any of the pelvic viscera become inflamed, the adjoining peritoneum thickens, becomes inflamed, and throws off plastic exudations, to prevent the fatal effusion of urine or fæces into the peritoneal cavity. We may certainly admire the conservative efforts of nature, when we find false membranes forming a semi-cartilaginous cyst around a diseased portion of intestine, so as to receive the fæcal matter which would be fatal if effused into the peritoneum. The conservative tendency of peritonitis which accompanies cancer of the womb

or other pelvic viscera, is equally obvious, although less successful. In one form of hæmatocele, blood collects in the pelvic portion of the peritoneal cavity, in which case plastic lymph is thrown up, so as to circumscribe the blood, and cut it off from the rest of the serous cavity; this pathological labor being indicated by intense abdominal pain, nausea, or vomiting.

*Treatment.* — I am afraid that our larger knowledge of the diseases peculiar to women has not in every instance led to their better treatment. However wrong were our predecessors in giving the name of "inflammation of the bowels" to so many different diseases, still the name led to the enforcing of perfect repose, of low diet, warm poultices, and leeches—treatment which I still believe is the most appropriate, notwithstanding the disrepute into which venesection has fallen, and the spreading of the dangerous doctrine that a stimulant system constitutes the best means of treating fevers and inflammations. In pelvi-peritonitis, I have no hesitation in applying leeches, and in giving calomel and opium, according to the patient's strength, which is much more likely to be undermined by the repeated relapses of a tedious complaint than by energetic treatment in the beginning. According to Scanzoni and my friend Dr. Aran, leeches are more effectual, in peri-uterine phlegmon, if they are applied to the neck of the womb. I have no experience of the plan, but I am inclined to think that in many cases the advantage to be derived from the direct application of leeches would not be proportioned to the pain and inconvenience entailed by the prolonged application of the speculum. Mercurial and belladonna ointment should be freely smeared over the abdominal walls, and warm poultices frequently applied. Mild purgatives will be advantageous. Large blisters may be successively applied to the abdomen during the inter-menstrual period, but they should not be kept open. These measures, first used to check inflammation, may be afterwards more or less extensively employed to promote the absorption of adventitious products; for I have several times seen accumulations of false membranes, sufficient to modify considerably the sound of percussion, disappear by degrees, the abdomen resuming its proper sonoreity. I have not found bleeding and leeching, previous to a menstrual period, to prevent the relapse of peritonitis; and I prefer to seek to obviate this by enjoining perfect rest, and the continued application of warm poultices of spongio-piline, sprinkled with from thirty to forty drops of laudanum. It is easy to understand that it might be necessary to open into the vagina the collection of pus, no matter whether originating in pelvi-peritonitis or peri-uterine phlegmon; but I have not had occasion to do so, and I think it better to trust to nature for the due performance of this little operation, if it be required.

This is the treatment which I have generally found successful. Some practitioners recom-

mend opium, in half-grain doses, every hour; and Dr. Beau's mode of treating general peritonitis might be effectual. Dr. Beau gives eight grains of sulphate of quinine every eight hours. After four or five doses, deafness and singing in the ears come on, the action of the heart is lowered, and then the symptoms of peritonitis are said to abate.

I need scarcely add, that in the anæmic stage of the disease combinations of steel and bark should be given, and that the nervous symptoms will tax the ingenuity of the medical adviser.

York-street, Portman-square, 1859.

## NEW TESTS FOR THE KIESTEINE OF PREGNANCY.

By J. BRAXTON HICKS, M.D. LOND., F.L.S., &c.

ASSISTANT PHYSICIAN-ACCOCHEUR TO GUY'S HOSPITAL.

The time consumed by the usual method of obtaining kiesteine, and the unpleasant odor arising from its decomposition, render it a desideratum to possess a test, which shall hasten its appearance, and increase the quantity deposited from the urine. Into the value of it as a sign of pregnancy, I do not intend at present to enter; but as a readier means of ascertaining its existence will assist investigations on that point, I beg to offer my experience on the action of rennet on urine containing the above-named substance. What the composition of this substance is, as it exists in newly-passed urine, has not been as yet ascertained. There can be scarcely any doubt that the action of their air alters it into a substance very similar to casein, if not identical with it, inasmuch as its coagulable by rennet, and insoluble in cold acetic acid, and generally by hot. That the substance called by Dr. Stark "gravidine" is another substance seems probable, and may be that which is precipitated out of some urine of pregnancy by a small quantity of acetic acid, though it is generally re-dissolved in from six to twenty hours; or it may be the same substance in varying degrees of alteration. The readiness with which this change takes place, whatever it may be, varies very considerably in pregnant women, and that without any apparent cause. A few hours' exposure to or agitation with air is sufficient to deposit the altered substance; while in others, two days are required: and this is not altogether dependent on the period of pregnancy; for I have found a person, only four months and a half advanced, yield copious deposit in three hours after passing; while another, at the full term required within two or three days.

Now, as there is no amorphous deposit thrown down from urine previously clear, within two or three days, which is not easily dissolved by heat (lithates) or by dilute acetic acid (phosphates and carbonates), excepting from that of pregnant women, it is evidently not necessary to wait till the decomposition has gone on to form the white pellicle which ensues upon pro-

tracted exposure; but if a deposit takes place varying in color according to that of the urine (but naturally white), unchanged by the above-named tests, then we may safely conclude that the urine contains kiesteine.

This deposit varies from copious troubling to that of small flakes falling to the bottom, and probably results from the natural acid of the urine, or the formation of lactic acid in it, coagulating the newly-altered kiesteine; and the time at which the troubling takes place varies also, probably, with the rapidity with which the change by the air goes on and the condition of acidity.

If, then, we add rennet to urine of pregnancy, we shall find that in nearly every case the deposit above alluded to appears at an earlier date than if it is not employed: in some cases, within an hour (this is uncommon); in others (especially if the urine be recently passed), in from twelve to twenty-four hours. In the majority of instances, the change produced by the above-named agent has been in advance of the usual method by about half the time, and the quantity of the deposit has been decidedly greater.

Now, the greasy-looking pellicle which has always been waited for as a sure sign of kiesteine, consists of a small quantity of amorphous matter (kiesteine; occasionally a few fat-globules, but not constant; numerous crystals of the triphosphate, amorphous carbonate, and phosphate of lime, which incrusts the numerous so-called vibriones, thereby preventing their peculiar movements till released by the addition of acetic or other acid. All these are produced by the process of decomposition, and form therefore but a crude test, being also somewhat imitated by the decomposition of albuminous and diabetic urine.

Rennet, I have found, has no action on healthy, diabetic, albuminous, or phosphatic urine. A slight deposit sometimes takes place, looking something like mucus; but I think urine giving off but a slight precipitate should be held doubtful in respect of kiesteine.

If, after the deposit is well formed, we add to say half an ounce of the turbid urine (taking the lower portions) a few drops of strong solution of ammonia, and boil for a minute or two, we shall find the deposit is formed into a semi-mucous mass, so that the urine becomes almost tremulous. When this occurs, it is, I think, characteristic of kiesteine. It can be produced without boiling, but the change is slower and not so complete. If the deposit be scanty, the above appearance is not so well marked; but, by careful watching, it may be observed amongst the flakes which are formed.

This test for kiesteine can be employed equally well with or without the previous use of rennet. The quantity of phosphates thrown down by the ammonia may be known by adding gradually acetic acid, so as to slightly acidulate. What remains undissolved is the kiesteine.

In employing rennet, I find the best method is to mix about two teaspoonfuls (as described below) with about three ounces of the urine, if it be recently passed; but if it has stood some time, and the kiesteine is about to be deposited, I like to pour it quietly in, so that it may fall to the bottom. The deposit is then clearly shown at the juncture of the two fluids.

Alkaline urine should be accurately neutralized by acetic acid, and should pus be present, it should be allowed to stand, and then be filtered. (However, the rennet semi-gelatinizes pus, so that it is not of very great consequence.) This plan should be adopted in all cases where the urine is turbid, from phosphates, pus, mucus, or extraneous matter.

The chief advantages of the employment of rennet are—

- 1st. Saving of much time.
- 2nd. Increase of the deposit.
- 3d. The deposit is nearly free from phosphates.
- 4th. It is nearly free from smell.

The rennet I use is prepared in this way:—Take the fourth stomach of a calf as soon as killed, and scour it well inside and out with salt, so as to remove the curd. Let it drain a few hours. Place it in a wide mouthed jar, and sprinkle a handful of salt upon it. In a short time the juice will exude, and dissolve the salt. Take this and filter through bibulous paper; place it in a bottle, and use as required. That left in the jar will continue to yield a fluid for some time; otherwise some salt and a small quantity of warm water should be poured over it, and allowed to stand a day. Then filter the juice. The stomach may be also filled with salt and sewn up, or it can be stretched on a skin to dry. In the latter cases pour warm water upon it, allowing it to stand some hours, adding salt to help to preserve it. The more concentrated the juice is the better.

Rennet, already salted, may be obtained of almost any butcher.

Wellington-street, London-bridge, September, 1869.

#### ON A CASE OF REFLEX PARAPLEGIA IN WHICH STRYCHNIA WAS SUCCESSFULLY EXHIBITED.

By WILLIAM MOORE, M.B., M.R.I.A.,

PHYSICIAN TO THE HOSPITAL FOR DISEASES OF CHILDREN, ETC., DUBLIN.

As the physiology, pathology, and treatment of cerebrospinal and paralytic affections generally may be said of late to have engaged a more than usual share of attention, the details of the following case (an opportunity of treating which was kindly afforded me by Dr. Kirkpatrick) may not prove devoid of some interest:—

George M—, aged thirty, a porter in a large furniture establishment in this city, was admitted into the hospital of the North Dublin Union Workhouse. He states that about six weeks ago he was drenched to the skin, and re-

mained in his wet clothes under heavy rain for hours—in fact, from midday until one o'clock in the morning. From the history of his case, it is evident he went about for ten days after with a feeling of *malaise*, complaining of no special ailment; during which time he confesses to have taken whisky freely. On the morning of the third day after this wetting, on awaking, he was unable to turn in bed, and complained of pain from his armpits downwards.

I first saw this patient on the 29th of August, when, with difficulty, he was placed in the prostrate position. I examined the spinal column, and failed to detect any evidence of organic disease. He had tenderness—not actual pain—on being tapped over the lumbar region, where the muscles were lax and flabby; he had perfect use of his arms and upper extremities, and, acting from a fixed point, could thus turn his whole body. The pulse was natural, and the tongue clean. In the early stage of the attack he passed his urine in small quantity, and with some uneasiness; that has passed off, and he now micturates freely; urine of a healthy character. In the absence of galvanism with wet sponges, I desired him to be extensively “dry cupped” over the dorsal and lumbar region.

On the following day, August 30th, there was no change of any note. The patient had been very efficiently dry cupped as desired. I now prescribed one grain of strychnia, and a few drops of rectified spirits, with bread sufficient to form sixteen pills, of which he was to take one three times in the day.

On the afternoon of the 31st, the man complained of twitchings and startings in the back and muscles of the lower extremities generally; can turn himself in bed. To continue the pills as before.

Sept. 1st.—The patient got out of bed without any assistance and walked down the ward. No doubt he occasionally faltered and was unsteady, but he never lost the perpendicular, and returned to bed independent of any support. He complains very much of the startings, particularly across the lumbar region, which, he says, awoke him out of sleep, and he is afraid to cough or take a deep inspiration lest he might induce them. The pills to be repeated.

On the 2nd of September this man turned out of bed at once, walked steadily, and, I may add, briskly down the ward. As he is so much improved to-day, and complains of the jerking in his back, I omitted one of the pills.

His recovery has since been confirmed in every particular, and, on the 6th, the man was sent out of hospital.

I think this is an instance of what might be termed “peripheral or circumferential reflex paralysis,” as it had its origin evidently from standing in wet and cold for so many hours, there being no lesion of the bladder, kidneys, or other viscera to account for its reflection from any of them. I find a somewhat similar case

related by Dr. Graves ("Clinical Medicine," p. 508), where a man was seized with paralysis of the lower extremities by exposing his feet to cold and wet while baling out water in a quarry. Speaking of the prognosis of such cases,\* Dr. Brown-Séquard says its gravity depends in a great measure on the severity of the disease which induced it. If it does not arise from organic disease or other cause which is in itself generally fatal, it will often admit of cure, and that, perhaps, very rapidly. The cases where recovery is so decided and rapid are very rare. I find Dr. Watson mentions a case of paraplegia from exposure to cold, in which complete recovery was effected in two days.

G. M——'s case goes to show what a valuable agent we possess in strychnia in paralytic affections, where we have no reason to suspect the presence of myelitis or other organic cerebro-spinal disease. On the treatment of such cases as the above, I am again tempted to quote Dr. Brown-Séquard, who says, if strychnia be administered in the *reflex* form it may be advantageous; but in cases of paraplegia consequent upon congestion or actual inflammation of the cord, if you give strychnia you will always aggravate the affection.

In the above case, after a careful examination, I felt satisfied there was no organic lesion present, and accordingly I prescribed strychnia, having first stimulated the muscles by "dry cupping." I should have preferred the use of galvanism with wet sponges, but, for reasons which it is needless to mention, this was not convenient. The result realized my most sanguine expectations, marked recovery having taken place on the second day. I may add that the "twitchings" were exclusively confined to the paralysed muscles; those of the upper extremities seemed proof against the therapeutical action of the strychnia.

Dublin, September, 1869.

## OBSERVATIONS ON DIPHTHERIA.

BY GEORGE PARKER MAY, M.D., Edin.

The occurrence of diphtheria in many districts of this country, as a new form of disease, has excited much interest in the public as well as in the professional mind, which interest has unfortunately been considerably enhanced by the fatality which has frequently attended its progress. Many valuable papers on this subject have already appeared in *THE LANCET*. Believing it to be the duty of every man to contribute whatever may lie in his power to the general stock of information on this malady, I venture to offer a few brief remarks, deduced from the observation of several hundred cases which have come under my notice within the last twelve months.

Diphtheria, as it has appeared here, admits of being classified into three distinct forms. The

first I would designate *D. pellicularis*; the second, *D. discreta*; the third, *D. maligna*.

The first form, *D. pellicularis*, is recognised by a white, smooth film, covering the tonsils; sometimes extending over the fauces, gradually losing itself in the general mucous tissue, without any demarcating line. The tonsils are but slightly swollen, and where any part of them can be seen uncovered by the film, it is found to present little or no deviation from the ordinary tint. The glands of the neck are unaffected. The patient complains of slight soreness of the throat, but deglutition is but little interfered with. This form is very amenable to treatment, and never passes into the third variety.

The second form of the disease appears as a series of distinct yellow, or whitish spots, more or less thickly studding the tonsils and, occasionally, the pharynx. They are elevated above the tissue on which they are placed. The tonsils are enlarged, and are of a florid-red tint. The spots generally preserve their distinct character throughout the course of the disease, but now and then coalesce, and form, by their union, larger patches, surrounded by a deep red border. A sensation of soreness and uneasiness in swallowing exists, and a slight amount of fever. The spots generally disappear under treatment in two or three days, and leave no traces whatever of their existence. The cervical glands in this form of the disease are rarely implicated.

The characters of the malignant form of diphtheria are now pretty generally known, and have been so fully described in *THE LANCET*, that it would be an unprofitable occupation of its columns to enter into any elaborate detail of the features of the disease. I would, however, call attention to the insidious mode in which its attack is frequently manifested in children. In them it is commonly ushered in by vomiting. A child goes to bed in its usual condition of health and spirits, is disturbed at night by repeated paroxysms of vomiting, associated with a dry, hot skin, and the ordinary symptoms of fever, but connected with no sign which would lead the casual observer to suspect the real nature of the malady. In this stage the child makes no complaint of the throat, and swallows without difficulty. On examination, the tonsils, uvula, and palatine arches exhibit an angry, lurid appearance, with much swelling; the uvula occasionally oedematous, with one or more white or ash-colored patches on the tonsils, the edges of the uvula, or the pharynx, often with an intensely red margin encircling the spots. As the disease advances, the patches become thicker by successive additions to their under surface, and extend rapidly, often involving the palate and the Schneiderian membrane. The first deposit now becomes loose, and frequently of a brownish hue, and is discharged either in fragments, or in a semi-sloughy mass, in the acts of coughing or vomiting, leaving a rough excoriated surface, which, in the course of ten or twelve hours, becomes again covered with an adventi-

\* On the Physiology and Pathology of the Nervous System.

tious deposit. There appears to be scarcely any limit to its advances. I have seen it progress from the nose, along the nasal duct, and appear on the conjunctival membrane of the eye. Its extension into the trachea is well known, and I believe that it occasionally finds its way into the œsophagus. Swelling of the cervical and parotid glands is very frequent, though by no means an invariable concomitant of the disease. The most severe cases sometimes run to a termination attended by no external swelling whatever during their course. Although the capability of swallowing is but little impaired in the early stage of the disease, it is seriously impeded in the more advanced conditions; and this difficulty appears in many instances to arise, not so much from the mechanical obstacles afforded by the morbid state of the throat, as from a paralytic condition of the muscles of deglutition; and this difficulty in swallowing, as well as in articulating, in many of the severe cases, continues some time after convalescence is established. The almost invariable presence in the urine of albumen and microscopic casts of the uriniferous tubules, in addition to the symptoms above enumerated, has given origin to the idea that diphtheria is a suppressed form of scarlatina. I am obliged to dissent entirely from this view. Scarlatina has not been at all prevalent in this district during the invasion of the epidemic. Diphtheria has attacked indiscriminately those who had previously had scarlatina, and those who had not. Desquamation of the cuticle was observed in one instance only. In six cases of a very severe character, the disease returned at intervals ranging from ten days to six weeks. In five of these, the second invasion was equal in violence to the first, but none were fatal.

*Treatment.*—The first and second forms of the disease yield readily to a few applications of a strong solution of nitrate of silver. In all local applications of a fluid nature I would urge the advantage of using a soft brush in preference to a sponge. In an operation which has frequently to be done with much rapidity, a clear view of the spot to which the application is to be made is essential. The introduction of the sponge obstructs the light, and it is uncertain whether the exact spot intended to be reached is touched at all, and it is not probable that the sponge parts with a sufficient amount of fluid without being forcibly pressed against the tender and diseased tissues. In the malignant form of diphtheria, if the case comes under treatment in the early stage, I am in the habit of giving an emetic of ipecacuanha wine, the action of which is often beneficial in dislodging or loosening the plastic deposit, and in relieving the throat and nostrils of the viscid and offensive secretions which exist there in a greater or less degree. Its diaphoretic effects are often apparent in producing a moist and relaxed state of the skin instead of the dry burning condition which generally exists. The best local applica-

tion, in the severe form of diphtheria, I have found to be the tincture of the sesquichloride of iron. It should be applied twice or thrice in twenty-four hours. I would protest strongly against the employment of any counter-irritants to the throat, especially in children. The tendency to degeneration of the various tissues is so great that sloughing is apt to ensue from blisters, and I have seen very troublesome excoriations from mustard poultices applied for a short time only. The application of a piece of soft linen, two or three times folded, and soaked in tepid water, is the least inconvenient, and, I think, most useful. It should encircle the throat, and should be covered with oiled silk or gutta percha. In the advanced stages, when the disease assumes an asthenic character, I believe turpentine to be a most valuable remedy from its mild stimulating properties, and its influence in arresting asthenic inflammation, and preventing deposits, plastic or otherwise, upon the mucous surfaces. It is also very useful in hæmorrhage from the throat which occasionally occurs. The use of turpentine was suggested some time since by a correspondent of *THE LANCET*, and I can add my testimony as confirmatory of such recommendation. I have found its best mode of administration to be in the form of emulsion, consisting of turpentine, two drachms; compound powder of tragacanth, one drachm and a half; water, eight ounces: mix. The dose for an adult, one ounce every three hours. The turpentine in these small doses is generally well borne by the stomach, and is not unpleasant to the taste when that sense is preserved. In conjunction with this, wine will often be required to be dispensed with a liberal hand. When the disease attacks the Schneiderian membrane, with or without epistaxis, injections of strong solution of alum may be employed. Plugging the nostrils is of little use, and is scarcely admissible from the irritation it produces, and the impediment it offers to the access of air.

Maldon, September, 1859.

#### ON A CASE OF INTRA-OCULAR HÆMORRHAGE CONSECUTIVE TO THE OPERATION FOR CATARACT BY EXTRACTION.

BY JAMES G HILDIGE, Esq, F.R.C.S.

This accident has been passed over in silence by the greater number of writers on ophthalmology, partly on account of the rareness of its occurrence, and partly, as Mr. White Cooper remarks, because surgeons do not like to publish cases which terminate unsuccessfully. The details of the following case are somewhat similar to some of those recently published in the *Gazette des Hôpitaux* by Dr. Rivaud-Landran.

Mary H—, aged sixty-five, widow, applied at the Eye Dispensary, Mecklenburgh-street, affected with complete lenticular cataract of both eyes. As the retinae were perfectly sound, and the pa-



tient's bodily health good, with the exception of slight rheumatic pains, I determined on operating on the left eye by extraction. The lens, which was hard and of a light-brownish color, was extracted without the slightest difficulty, and scarcely a particle of vitreous humour escaped during the operation. It appeared, however, that the friends of the patient had given her a draught of porter previous to the operation, without my knowledge; and about an hour after I had left her, nausea and vomiting set in, a considerable quantity of vitreous humor was evacuated, and when I saw her, the flap of the cornea was protruding between the eyelids, and a portion of the bed-linen was saturated with blood, the space between the lips of the wound being filled by a mass of vitreous humour. Notwithstanding the application of cold lotions, cupping by means of Hurtleoup's artificial leech, &c., the hæmorrhage continued for upwards of twenty-four hours, and the patient became so prostrated, that I proposed extirpation of the eye as the only means of arresting the flow of blood. This, however, her friends would not hear of, and the application of cold lotions was continued, her strength being at the same time supported by strong beef-tea, wine, &c. The hæmorrhage was eventually arrested by this treatment, but considerable inflammation of the eyeball followed. At the end of three weeks, the patient had partially recovered her strength; the eyeball was, however, atrophied, and vision completely destroyed.

Rivaud-Landrau states that he has only met with this accident four times in two thousand cases of extraction of cataract. In two of these cases, he attributes the hæmorrhage to the escape of a considerable portion of the vitreous humour during the operation; in the remaining two, it was caused by a blow on the eye twenty-four hours after the operation.

"What are the phenomena," he asks, "which present themselves in the globe of the eye when a portion of the vitreous humour is evacuated?" During this movement the ocular muscles contract spasmodically, which produces minute shocks on the eyeball; the portion of vitreous humour which remains in the deeper part of the globe executes a forced movement forwards, in order to fill up the vacuum. The vitreous humour, in being projected forwards, is detached forcibly from the chorioidea; and it is in this manner that the rupture of the minute sanguineous vessels which wind about the cells of the hyaloid membrane, and radiate from the chorioidea towards them, is produced. Intra-ocular hæmorrhage is the immediate result of the rupture of the vessel during the detachment of the vitreous humour from the chorioidea.

Mr. White Cooper, on the other hand, maintains that the detachment of the vitreous humour, instead of being the cause of the hæmorrhage, is merely the result of it. According to him, it is the accumulation of blood behind the vitreous humour which, in pushing the latter

before it, produces the detachment. In fact, Rivaud-Landrau regards the principal cause of the hæmorrhage what White Cooper considers as merely the effect of it.

In four cases of extraction of cataract at the Ophthalmic Hospital, Moorfields, in which this complication occurred, the eye was extirpated in order to arrest the hæmorrhage; and on dissection a coagulum of blood was found in each case between the sclerotic and choroid coats, the choroid and retina being pushed forwards into the vitreous humour. This would speak rather in favor of Mr. White Cooper's theory.

In a recent article in the *Giornale d' Oftalmologia Italiano*,\* Dr. Olioli proposes digital compression of the carotid artery on the side corresponding with that of the hæmorrhage, as a means of arresting it, instead of resorting to extirpation of the eye. Although he has not had an opportunity of proving the efficacy of this treatment, yet he cites a case of aneurism of the ophthalmic artery in which it was employed with success by Prof. Gioppi of Padua, and infers from this that the same means might be resorted to with immediate benefit in intra-ocular hæmorrhage.

Rivaud-Landrau makes the following remark, speaking of the occurrence of the accident after the extraction of cataract: "La quantité du sang évacué ne peut jamais être assez considérable pour entraîner à sa suite un danger sérieux."† This assertion is not borne out by the case I have just related; and in another case, operated on by White Cooper, the hæmorrhage lasted for thirty-seven hours, and, the patient being eighty-seven years of age, serious doubts were entertained of saving her life.

Dublin, September, 1859.

## ON INTESTINAL FEVER.

BY WILLIAM BUDD, M.D.,

SENIOR PHYSICIAN TO THE HOSPITAL ROYAL INFIRMARY.

"Il faut considérer cette lésion non seulement comme propre à l'affection typhoïde, mais comme en formant le caractère anatomique, ainsi que les tubercules forment celui de la phthisie."—LOUIS.

### No. II.

#### NATURE OF INTESTINAL AFFECTION.

In his elaborate and masterly account of the morbid anatomy of intestinal fever, Louis divides the alterations found in the dead body into three groups in accordance with the more or less specific relation they bear to the disease.

To the first are allotted morbid changes which have the two-fold distinction of being *always* present in this disease, and *never* present in any other—morbid changes which are specific, that is to say, in the highest conceivable degree.

\* Emorragie Intra-oculari od Emoftalmie, e Proposta della Compressione Digitale per Arrestarle. Per A. Olioli, medico-chirurgo oculista esercente in Gallarate.

† Gazette des Hôpitaux, May 31st, 1859.

The second group is devoted to alterations, which, although not constant in this fever, nevertheless occur so frequently in it, and so rarely in other diseases, as to be entitled in a certain sense, to the rank of specific characters.

In the third, and last group, this distinguished physician places all those morbid appearances which are met with as often in other diseases, as they are in this, and which possess, therefore, only a general importance.

Louis was himself the first to show that the well-known affection of the intestine, the true interpretation of which it is the object of this paper to discuss, not only entirely fulfills the two conditions which define the first group, but is the only anatomical change disclosed by the dead body which does so. Take the diseased intestine away, and it becomes impossible to distinguish the body of a man dead of this disease from that of a man killed by any other septic poison. Take away the body, but leave the intestine, and by the marks upon it, death from this fever is at once distinguished from death from every other cause. By this title, therefore, this affection of the intestine is as much a specific character of this fever as a peculiar pustular eruption on the skin is a specific character of small-pox.

The first term of Louis's proposition—that, namely, which affirms the constant presence of the affection in question—is founded, it is true, on the assumption that the fever which is attended by it is a distinct species, and is, in particular, essentially different from the maculated typhus, in which no such affection of the intestine occurs. But as far as can be judged from the present evidence, there is no assumption the truth of which rests on surer grounds. Although the question of the essential difference between these two fevers is too large to be treated incidentally, I must needs bestow a few words on it here. I have already stated, in a note appended to my last communication, that in the year 1839 I submitted to the judges for the Thackeray prize an essay, one of the principal objects of which was to prove the reality of this difference by various evidence. In drawing upon that essay for the following considerations, which are all that my limited space allows me to offer on this question now, I need scarcely say that I intend no slight to the more elaborate disquisitions upon it which have since appeared from the pen of Dr. Jenner and others.

In solving the problem of the determination of a species, there are two orders of evidence to which a naturalist may appeal. The first relates to the outward resemblance or diversity, in what are supposed to be special characters, of the varieties for which the claim to a community of species is set up. The second consists in facts which tend to establish actual relationship, or the reverse, between such varieties, by showing the presence or absence of a power in *this one to propagate the other*. In both instances the answer to the appeal appears to be, as far as we

can interpret it, decisive in favor of the conclusion that intestinal fever and the maculated typhus are not varieties merely, but distinct species.

Touching general characteristics to begin with, the first thing to be remarked is, that whereas nearly all the points in which these two fevers agree are common to them and many other diseases, and are obviously of no value, therefore, as *indicia* of a species, the points in which they differ are all of a very special order, and in some instances of an intensely specific kind. Those in which they agree may, in fact, all be summed up in the phrase “typhoid symptoms”—symptoms which, as the current use of this phrase denotes, are met with in a great variety of diseases, and are for that reason of no specific value whatever. Stupor, low delirium, general prostration, subsultus, a dry and encrusted mouth, and even deafness, occur not only in these fevers, but, grouped in the same way, in pyæmia, urinary poisoning, in some forms of pneumonia, and in many cases of acute tubercle. Phenomena that are common to things so widely different in essence as these can, of course, have nothing characteristic in them.

What typhoid symptoms really bespeak is the occurrence of septic changes in the body; of the specific nature of the material cause by which these changes may have been set up, they bespeak nothing.

Amongst the differences between these two fevers which may be named as being, on the other hand, of a much more essential character, are the following:—

1st. The cardinal difference between the two as to the state of the intestine.

2nd. That which relates to the cutaneous eruption in each; as regards date of appearance, general character, and mode and extent of distribution.

3rd. The much shorter average duration of the maculated typhus, whether as reckoned by death or convalescence; or, to speak more generally, the more rapid evolution of the whole series of changes produced by the morbid agent.

4th. The greater average age of the subjects attacked by maculated typhus, and, especially, the total absence of that immunity which, irrespective of every other condition, advanced age appears to give, in a very marked degree at least, against attacks of intestinal fever.

5th. The much greater tendency in intestinal fever to ulceration of mucous membranes generally, as also to gangrene of the skin and other parts; and the much greater frequency in maculated typhus, on the other hand, of true petechiæ.

And, lastly, the very remarkable contrast between the two fevers in relation to the influence of season, more particularly as shown by the preference of the maculated fever for winter and for low temperatures—conditions which are

notoriously efficacious in checking the spread of intestinal fever. \*

Differences such as these, at once so intimate and so various, surely seem to belong, not to mere modifications in the properties of a single poison, but to two essentially distinct poisons, each acting according to its own law.

To exhibit great diversity in degree and type is, no doubt, one of the peculiarities of the contagious fevers, considered as a family group. To vary widely in severity, and even in more characteristic things, not only from one case to another, but even from one season to another, is inherent in their very nature. Thus in one person an attack of scarlet fever may amount to nothing more than a slight indisposition; in the next, it destroys life under the guise of the most malignant of poisons. Again, we have true small-pox and modified small-pox; scarlatina without rash; measles with the skin intact; and so on of the rest. But of all the differences which thus spring from mere modifications in the mode of working of these specific poisons, there are none which, as a whole, are comparable in specific value to those which have been enumerated as subsisting between intestinal fever and the maculated typhus. Still less are any such to be met with running, as these last do, not only through whole epidemics, but persisting, year after year, over large tracts of country in one unchanging type.

So that, as far as general characteristics are concerned, the difficulty seems to be, not so much to discriminate between these fevers, as to discover on what grounds they ever could have been considered identical. In coming to the conclusion that they are so, it is obvious that medical men have been unduly biassed by the striking similarity between the two in outward aspect.

In all cases it is from outward aspect that our first impressions are derived. In the greater number we have throughout but little else to guide us to the nature of the attack. And as, in the present instance, the phenomena of which

this aspect is made up form a very striking group, they engrave themselves deeply on the mind. They constitute the image, in fact, with which fever is identified by the generality of observers.

On the other hand, the most special of the marks of distinction between its two kinds, being seated in an internal part, lies altogether out of sight. Only in fatal cases, indeed, can it possibly be made visible to us, and these, happily, are the small minority. Thus concealed, it comes to interfere but little with the bias created by the close resemblance between these two fevers in the condition of the outward man. But it has always appeared to me that if the affection of the intestine, which is characteristic of one of them, had been a thing open to view instead of hidden from it, the question of their identity would never have arisen. Having arisen, it must, however, be settled by other evidence, and in another court.

In the following passage from the essay already referred to, the issue is placed on what will probably be acknowledged to be its true footing. After acknowledging that it is not to considerations of the order of those already adduced that we must look for the *final* solution of this problem, the manuscript proceeds thus:—

"Happily, however, the final determination of this question upon grounds from which there is no appeal is within the reach of patient and well-directed research. A sure criterion, and the only sure one, of the specific identity, or difference of these two forms of fever, is furnished by the faculty which belongs to both, of *propagating by contagion*. If these forms be mere varieties of one disease, it necessarily follows that one communicates the other. The first term of this proposition involves the second.

"But it seems to me, that the answer to this question is, in great measure, anticipated by what happens in Paris. Surely if that form of fever which is attended with special alteration of the intestinal follicles were capable of communicating the other form, some instances of that form would happen amongst the countless cases of fever that are carefully observed every year in that city. Yet such is not the case. Is not the inference almost certain, that the form of fever with intestinal ulceration does not communicate to the other form?"

The twenty years that have elapsed since this passage was written, so far from having contributed anything to weaken the conclusion to which it points, have added to the force of that conclusion by the whole accumulated evidence of this long interval. Even this statement of the fact does not represent the whole truth. The remark which is here applied to Paris may not only be applied to Paris still, but, with the qualification to be presently mentioned, may, I believe, be extended to the whole of France. Over that immense country, for twen-

\* The influence of cold in promoting the spread of *typhus* was exemplified in a striking way in the epidemic which broke out in Edinburgh in 1836, and continued to prevail there for three successive winters, gradually declining, year by year, as spring advanced, and except in 1836 almost disappearing in summer.

Speaking of the fever patients in the Edinburgh Royal Infirmary, Dr. Henderson says:—"Cold weather had commonly the effect of increasing the number of admissions, which declined again when the temperature was moderate. These fluctuations were noticed, not merely on a general and large scale, as on comparing the effects of summer and winter, but even in the latter season occasional changes of weather, though not persisting above eight or ten days, had the effect I have mentioned."—See *Edinburgh Medical and Surgical Journal*, Oct. 1839.

Sir G. Blane speaks of an epidemic of the same fever which prevailed in London during the whole of the winter of 1785, a winter which was long remembered in Europe for the great destruction of vegetation occasioned by the prolonged and intense frost. When the cold was at its height, (the Thames being frozen over,) the hospitals in the east of London were so crowded with fever cases that a report got abroad that the plague had broken out in them.

Referring to the same kind of fever, Dr. Perry, of Glasgow, states that he had more than once seen its progress "rapid and violent during *intense frost*, when the whole liquid sub-stances in the streets were firmly bound together for weeks, without the possibility of putrefaction."—*Facts and Observations*, p. 6.

There is nothing parallel to this in the history of the fever with ulcerations in the intestine. That the influence of cold in promoting the spread of typhus is probably indirect only, does not alter the significance of the fact.

ty years or more, a large body of scientific observers have been planted, who have not only been alive to this question, but who have been, in many instances at least, on the eager lookout for examples of that form of fever which they have hitherto only known by report, and in which no scientific disease of intestine occurs. During the greater part of that period, fever has continued to abound among the French people. From all parts of the country accounts of local outbreaks have been constantly appearing at the Academy and elsewhere, and I believe I am correct in saying with only one result.

From the whole of this wide area—an area presenting great diversity in climate, food, occupation, and every other condition affecting human life, there appears to come in regard to one important point the same unvarying report. Wherever fever occurs in France, whether in Normandy or Provence, on the borders of the Rhine or the banks of the Loire, in town or country, on the mountain or in the plain; whether it attack the Lyons silk-weaver or the Paris student, the Calais fisherman or the shepherd of the Pyrenees, there is one thing that appears to be inseparable from the disease, and that is the peculiar affection of the intestine the true significance of which we are here endeavoring to make out.\*

Is not this fact alone almost sufficient to show that the fever so characterized is a species of itself? If this fever and the maculated typhus were only varieties of one disease, it is almost impossible not to suppose that over so wide a field, and through so vast a sequence, some interchange between the two would not occur. And yet, under every condition that can well be conceived as affecting the type of a specific disorder, one type only is found, so that every new crop of fever, through the whole of this boundless succession, carries its peculiar disease of the intestine along with it, with the same constancy with which small-pox throws out pustules, and barley wears a beard.

Some have attempted to explain this fact by supposing that it may be due to climate, to national peculiarities in the diet or bodily constitution of the French, or to other conditions still more vague and indefinite.

But this explanation, besides being purely hypothetical, is doubly in fault. For while on the one hand, the British are not at all less prone to intestinal fever than the French, events have shown that the latter enjoy no exemption from the maculated typhus when it is brought to their own door.

The statement just made as to the exclusive occurrence of intestinal fever in France requires, in fact, as already hinted, one qualification. In the winter 1829–30, maculated typhus broke out in the French convict hulks at Toulon, and committed great havoc amongst the

prisoners. A scientific commission was appointed to inquire into the nature and causes of the outbreak, and their report left no doubt as to the identity of the disorder.

In 1854, the same fever was imported into France by the French army on its return from the Crimea, and even penetrated to Paris, where it was seen for the first time by the present generation.\*

In a recent discussion at the Academy of Medicine, M. Trousseau, speaking of its highly contagious nature, said: "We have seen, at the Vâl de Grâce, Sisters of Mercy die of typhus, which had been brought from the East by soldiers from the army of the Crimea."

It need scarcely be added, that such events as these occupy a signal place in that class of facts which first led philosophers to say that "exceptions prove the rule."

I am aware that notwithstanding the change of opinion that has been taking place of late years in the profession generally in regard to this point, the identity of these two fevers is still maintained with unabated confidence by a physician of distinguished eminence who has had great experience in both, and whose name deservedly carries with it very great weight.

Dr. Stokes may possibly hold more conclusive evidence in reserve; but what he has hitherto published certainly contains nothing that can be considered as offering scientific grounds for his opinion. Still less does it contain anything to warrant the contemptuous language he uses towards those who hold the opposite doctrine. The only facts he adduces in support of his own, which are of any serious importance, relate to a few cases which, in the writer's view of them, tend to show that these two forms of fever spring out of one another. But to establish such a relation as this between diseases that propagate by *invisible* agents, it is essential that the evidence should be entirely free from ambiguity. Such, for instance, would be—supposing the fact to be repeated often enough to show cause and effect—the importation of one variety into a distant and previously healthy district, and the springing up of the other in immediate succession to it in the persons of those engaged in nursing the new-comer. But the facts recorded by Dr. Stokes contain nothing of this kind. Reduced to their elements, they amount to nothing more than this: that in certain seasons both intestinal fever and typhus are about equally prevalent in Dub-

\* See in verification the series of Reports on the Epidemics of France, by Gaultier de Claubry, in the "Mémoires de l'Académie de Médecine."

\* I have carefully examined the "Transactions" of the principal medical societies in France, and all the principal French journals for the period referred to, and, with the exception mentioned in the text, I can find no record of the existence of true typhus in that country. During the same period, typhoid or intestinal fever has been constantly rife amongst the French people. To such an extent has it prevailed that, in the five years succeeding 1841, the French Academy of Medicine received official reports of murderous epidemics (*des épidémies meurtrières*) from no fewer than twenty-eight Departments—an area that includes a much greater variety of conditions affecting human life than those referred to in the text in a preceding passage.—See "Mémoires de l'Académie de Médecine," 1849, vol. xiv. Gaultier de Claubry: "Rapport sur les Epidémies," &c. &c.

lin, and that under these circumstances, they are now and then found occurring in pretty near connection of time and place; sometimes in different individuals, sometimes in close sequence in the same person. But, under the supposition that these fevers are essentially distinct, it would necessarily follow, in places where both are simultaneously rife, that unless the one disease actually excludes the other, such facts as these should be frequently met with at the effect of mere coincidence. The occurrence of such facts no more proves the specific identity of these fevers than the occurrence of the precisely similar relations so often observed between whooping-cough and measles, or between fever and erysipelas, shows *these* diseases to be identical.

The study of the problem on this side of the Channel—in the south of England at least—is not beset by the same difficulties. Here, in Bristol, intestinal fever is, if I may so speak, the indigenous fever. Year after year, through long periods of time, and through a succession that includes many thousands of cases, this fever is found recurring with the same constancy of type which it exhibits in Paris. But that this is not owing to any peculiarity in the inhabitants, which might be supposed to render them insusceptible of the maculated typhus, is proved by the fact that when the latter is imported into Bristol, as it sometimes is, by Irish immigrants infected with it, it causes great mortality amongst the citizens.

The position which I formerly occupied as physician to St. Peter's Hospital gave me great facilities for following out these relations. During the early years of my connexion with that establishment, intestinal fever was the only form of continued fever ever seen there. When cases of it grew to be numerous in the wards, the disease sometimes extended itself to the permanent inmates of the house. A striking example of this occurred in the year that preceded the Irish famine, when in a short space of time as many as five of the hospital laundresses were laid up with intestinal fever one after another. In the year of great calamity that followed, another order of events occurred. When the famine had reached its height in the sister island, hundreds of half-starved Irish were landed on our quays, many of whom were already in the depths of spotted typhus. In the natural course of events, the wards of St. Peter's soon became crowded with these subjects. Fever again began to spread amongst the inmates of the house; but this time it was not intestinal fever, but the newly imported *Irish typhus*, with which these inmates were now for the first time brought into close relation. One of the nurses in a men's ward, that had been much crowded with cases of it, was the first to suffer. This man, who died under my own care, and of whose case I still possess very minute notes, presented the disease in its most typical form, and I ascertained by an examination, conducted with the greatest care, that the intestinal follicles were en-

tirely free from disease. Many other examples of the same kind occurred in the house. What thus happened in the hospital itself was but a picture of what was taking place on a much larger scale in the town. In Marsh-street, in Lewin's-mead, in the Pithay, and in other localities in which the lower Irish congregate, the disorder spread widely from the newly-landed immigrants amongst the old inhabitants of the place. I have before me, as I write, a tabular account of the cases of nearly two hundred persons who thus became infected with it, and who, as out-door patients, fell under the care of St. Peter's Hospital staff. The proneness which these people now showed to the disorder, when brought in contact with it, plainly proved that the only reason why they had not developed it before was, not that they were not susceptible of it, but that the specific poison was wanting from which this fever springs.

The only other explanation of the facts that could be suggested is, that some mysterious change had suddenly occurred in the bodily constitution of the Bristol people, which led to the development of fever under its new type. But this supposition, besides being absurd on its very face, was directly negatived by the fact, that in those quarters of the city into which the starved and typhus-stricken Irish had not penetrated, intestinal fever continued to reign in undivided possession. In illustration of this, it was interesting to observe that, while St. Peter's Hospital, which is a pauper establishment, was full of typhus, the Infirmary, which, being supported by voluntary contributions, draws its patients from a somewhat higher class, had for several months no typhus at all, but was supplied with its usual average of intestinal fever cases. A distinguished member of the Infirmary staff, seeing nothing but the old and long-familiar type, was for some time inclined to doubt the reports which reached him of the importation and spread of a new fever, and it was not until I showed him a series of cases of true maculated typhus, which were under my own care, that he became convinced of its presence in the town.

These facts suggest their own interpretation. Looked at with an unprejudiced eye, the whole of this history seems to be emphatically that of two distinct diseases, each propagating its own kind, but neither propagating the other. Until, indeed, actual proof is given that the one does propagate the other,—and hitherto there is nothing recorded containing the most distant approach to such proof,—the only legitimate inference from the fact is, that intestinal fever and maculated typhus are diseases of distinct species, in the same sense, to repeat an illustration already employed on a former occasion, in which scarlatina is distinct from measles, and small-pox from either.

Under this view, therefore, subsequent experience has only served to show that Louis was entirely justified in laying down the twofold pro-

position with which we set out—that the affection of the intestinal follicles, which he so accurately describes, is at once constant in intestinal fever, and never met with in any other disease. Keeping this clearly before us as the one great characteristic of the affection in question, let us now see what may be learnt from the anatomical study of its development.

It must be obvious to all who have had more than common opportunities for the anatomical study of the intestinal affection, that the advanced stage at which it usually falls under observation has been a great obstacle to the formation of a true conception of its nature. Generally speaking, we see, not so much the specific disease, as the havoc it has made. It is only by tracing the morbid changes through their early phases that we are enabled to recognise their true character. At the end of the first week of the fever, these changes appear under a very different aspect from that which they afterwards present. Although death at so early a period is comparatively rare, I have seen, in the course of a pretty long experience, some ten or twelve instances in which it occurred within the first nine days, and in which I had an opportunity of examining the diseased parts.

Judging from these cases, the following are the appearances which the intestine exhibits at this stage: A certain number of Peyer's patches, or of the isolated follicles, as the case may be, have acquired a great increase of thickness, and stand out in relief on the internal surface of the gut. In spite of these patches—to use the words of Chomel, whose description I here purposely adopt—the intestine feels as if a solid and elastic substance had been inserted between its coats. In cutting through a patch in this state, its texture is seen to be occupied by a yellowish-white cheese-like matter, of brittle consistence, about the tenth of an inch in thickness, and offering a smooth surface where divided by the knife. This yellow matter is the peculiar “typhoid matter” of which so much has been lately written by Rokitsansky and others, and of which we shall presently have more to say.

In cases in which death occurs as early as the seventh day, the mucous membrane overlying the diseased patches, as well as that occupying the intermediate spaces, is sometimes found in a perfectly natural state, having its proper color, thickness, and consistence. This is a fact of some importance, because it shows that this affection is not a disease which begins, as many suppose, in the mucous membrane properly so called, but in structures that lie beneath it; that it is not, in fine, an affection produced by agencies from without operating on the surface, but one which proceeds from a specific cause working from within. It might be easy to prove this by paramount considerations of another order, but it may not be amiss to show that we come to the same conclusion on purely anatomical grounds.

When this important truth is clearly apprehended, the true significance of this morbid process seems to be no longer doubtful. When we reflect that it occupies part of a structure which, physiologically speaking, is as much the surface of the body as the skin itself; that the morbid changes in which it consists are scattered widely over this surface, with spaces of healthy structure between; that, in their origin, these changes are confined to a single anatomical element; that they are attended by the formation of a special product, the maturation and casting forth of which appear to be their natural climax; and, finally, that they are peculiar to the disease before us, *and that disease a contagious fever*,—it is impossible not to see that the analogy hinted at in a former place as subsisting between this affection and the eruption of small-pox applies to more points than were there mentioned, and that this disease of the intestinal follicles is, in fact, a true *exanthema* of the bowel.

In some cases, indeed, so salient are all these points of analogy, and so striking is the family likeness between the cutaneous eruption and the intestinal disease, that the conclusion just stated involuntarily starts to the mind on the first view of the morbid appearances.

In a young woman, named Mary P—, who died under my care in St. Peter's Hospital in 1845, and in whose intestines, as now and then happens, the small circular (Brunner's) follicles were greatly predominant, and all diseased, the actual resemblance of the parts to the eruption of *variola* was so close that the student who had charge of the examination asked, in all simplicity, whether the case were not one of small-pox which had fallen on the bowels instead of on the skin. Such a fact as this shows, by the most striking of all testimony, that the analogy here sought to be established is, at any rate, not a far-fetched one.

From the appearances exhibited in the accompanying sketch, which was taken by my friend, Dr. Swayne, from the intestine of another young woman who died in the Bristol Infirmary in 1850, on the twelfth day of the fever, it is easy to see how such an idea might arise in the mind of an unbiassed person.

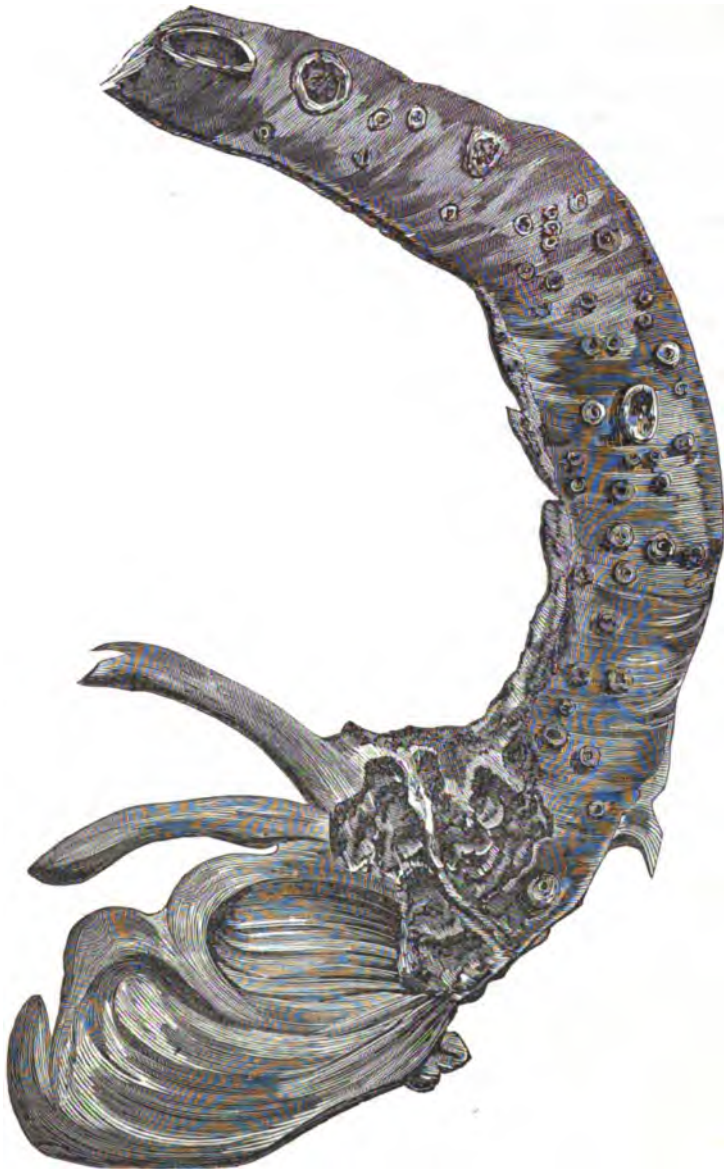
In cases which, like this, are of a nature to address themselves to the eye, the sight of a single specimen is often more convincing than the most elaborate train of reasoning. The diseased intestine here delineated at least shows that outward semblance is not wanting to the group of characteristics which make up the idea of an eruption.

The history of the yellow typhoid matter, from its first appearance to its maturation and final expulsion from the body, is entirely consistent with this view of the nature of the intestinal affection. It is now well known that this matter is made up almost entirely of nucleated cells in various stages of development. In size and form these cells bear a certain resemblance to the cells of some varieties of cancer.



On these and other grounds, which are given at length in the first edition of his great work on Pathological Anatomy, Rokitsansky has considered himself justified in laying down the two following propositions:—First, that the yellow matter, or as he calls it, the “typhoid matter,” is the actual *materies morbi* of intestinal fever; and secondly, that the disease to which this fever is most nearly allied is cancer!

Neither of these propositions is likely to find favor with English pathologists. The second of the two chiefly deserves mention as showing into what extravagances even men of ability may be led, when they undertake to interpret the nature of disease with no other light than that which is derived from a scrutiny of the dead body. The first proposition, although less extravagant, is yet wide of the truth.



The peculiar product in question is, no doubt, closely associated with the specific poison by which the fever is caused, but it can no more be looked upon as the poison itself than the pus corpuscles of small-pox can be looked upon as the small-pox poison. The true view to take of its nature appears to me to be precisely that which is suggested by this illustration. If, indeed, the disease of the intestine be, as here

maintained, a genuine eruption, it would follow by a necessary inference, that the yellow matter must bear the same relation to the specific poison of this fever which the pus corpuscles of the variolous pustule bear to the poison of small-pox. And this, I have no doubt, is the true statement of the case. Speaking microscopically, even, the resemblance of the yellow matter to these corpuscles, provided these last be taken



from pocks in the state of vesicle, is quite as great as the resemblance it bears to the cells of cancer. In all vital points it is far more complete. For the likeness between the cells of the yellow matter and those of the variolous vesicle not only extends to size and general appearance, but to those other marks which characterize cells of a rudimentary and abortive nature. And in fact,—what is most essential of all,—the cells from these two sources agree in the fundamental point of being incapable of further development, or of forming part of any living structure.\*

Such, then, if these considerations be just, is the true significance of the intestinal disease which characterizes the fever whose mode of dissemination it is the object of these papers to determine.

The two main propositions in regard to this dissemination which I am seeking to establish, are, it will be remembered, the following:—

1st.—That intestinal is an essentially contagious fever.

2nd.—That the most virulent part of the poison by which the contagion takes effect is cast off by the diseased intestine of the fever patient.

But if the particular view taken of the nature of the intestinal affection in this paper be the true one, the second of these two propositions must at once be accepted as a corollary from it. Once, in fact, admit that this affection is, in essence, *the specific eruption of a contagious fever*, and it necessarily follows, not only that the discharges from it are contagious, but that they must be charged with the most virulent part of the specific poison. As the view itself rests on analogy, the only question is, whether this analogy be a just one.

But, after all, it may be said that analogy, although very often valuable as a guide to truth, cannot stand as the actual evidence of it, or supersede the necessity of other and more direct proof. Such proof, fortunately, is not wanting in the present case.

In my next communication I shall show how entirely the conclusion to which the present argument tends is confirmed by evidence of a different order, and from a totally different quarter. I have here attempted to show that the intestinal disease is the specific eruption of a con-

tagious fever;\* in my next paper I hope to prove, by direct evidence of the fact, that the intestinal discharges are, what under this view we should expect them to be the most virulent of all the emanations from the sick.

Assuming for a moment the case to be already established, it may be well, before we break new ground, to see what would be the extent of the infection thus arising, and through what channels, and under what character, it might be expected to appear.

To enable us to judge of the extent of the infection, there are two elements to be taken into account: first, the amount and duration of the intestinal discharge in each case; and, second, the number of cases annually occurring.

Louis has made it his business to determine the former of these two points, with his usual accuracy, by the application of the numerical method. Fifteen days in mild, and twenty-six in severe cases, he finds to be the average duration of the alvine flux.† Although some little deduction from these figures must probably be made to meet our English experience, yet I should say that they are not even here far in excess of the truth.‡

The number of cases, on the other hand, is pretty accurately known. Judging from the reports of the Registrar-General, it would appear that, at the lowest computation, taking one year with another, from 100,000 to 150,000 cases of intestinal fever occur annually in England alone.

Whether the word *eruption* be accepted or not, we come, then, to this: that every year, in England, *more than 10,000 human intestines, diseased in the way in which I have here attempted to characterize, continue, each for the space of a fortnight or thereabouts, to discharge upon the ground floods of liquid charged with matters on which the specific poison of a contagious fever has set its most specific mark.* This is not a theory, but the bare statement of a fact. It is the fact of facts, in its bearing on the present investigation. To obtain an adequate concep-

\* The ulcers which sometimes occur in the stomach, in the gullet, and about the epiglottis, are also preceded by, and originate in, a deposit of the same yellow stuff. I believe the same to be the case with the ulcerations which now and then occur in the bladder, and of which I have seen several examples. When pneumonia comes on in the course of the fever, Rokitsansky states that the same deposit is found in considerable bulk in the parenchyma of the lung, and also in the bronchial glands. Whether it be from want of anatomical skill or not, I do not know, but I have altogether failed to satisfy myself of its presence in these situations under the circumstances in question, in the cases that have fallen under my own observation. In the maculated typhus I have often seen in these organs a deposit which answers in a general way to Rokitsansky's description, but not in intestinal fever. Many other English pathologists have, I believe, been equally unsuccessful. Rokitsansky's general statement is, that wherever the chief stress of the specific agent which causes never fails, there the yellow matter also most abounds. Assuming the fact to be so, it would only establish, on a still wider basis, the close relation which subsists between the yellow matter and the specific poison.

\* For the ten years during which I lectured on the Practice of Physic at the Bristol Medical School, I always taught this doctrine on the grounds advanced in the text. It was not until the summer before last that I first became aware that M. Bretonneau had put forward the same view in a paper entitled "Notice sur la Contagion de la Dothinerie," and which was read to the French Academy of Medicine so long ago as July 7th, 1829. In that paper M. Bretonneau contents himself with a bare enunciation of the doctrine, and does not enter into any considerations in support of it. Having been unable to obtain a sight of his monograph on Fever, I do not know whether or not he has given more development to the subject in that work. It is obvious enough, however, that the idea that the intestinal affection is a true eruption had been very clearly apprehended by him, so that whatever credit may be supposed to attach to it belongs to him. It is remarkable that he does not appear to have perceived its all-important bearing on the mode in which this fever is disseminated. Neither in his own papers nor in those of Gendran de l'Eure, who may be looked upon as his disciple, is there the slightest hint of the part which the discharges play in the work of propagation. Cruveilhier speaks of the intestinal affection having been compared to an eruption, but refers to the notion as being altogether fanciful and unworthy of serious notice. The reader will find M. Bretonneau's paper in the "Archives Generales de la Medecine," tome xxi., 1829.

† See Recherches sur la Fièvre Typhoïde, tome i., pp. 438-39.

‡ It is hardly necessary to observe that in some cases the diarrhoea is slight, and in some few others is absent throughout. In the cases which formed the basis of Louis's great monograph, this last fact was observed in three out of ninety-four cases, or, on an average, about once in thirty times. —

tion of the magnitude of the provision thus made for the work of dissemination, we must remember how infinitesimally small a dose of the poison thus deposited is sufficient to re-produce the fever, and how vast is the multiplication which, according to all reasonable calculation, this poison undergoes in every individual case. If the conclusion we have come to be just, the great bulk of this multiplication is represented by the intestinal discharges.

What the pustular eruption in small-pox is to the atom of inoculated virus, that, in its own degree, and most probably in no very inferior measure, is the poisonous matter thrown off by the intestinal follicles in this fever to the fever poison from which it sprang. And as in small-pox the new stock engendered in a single case is often sufficient in amount to inoculate with small-pox myriads of other subjects, so in this fever, in many cases, there is reason to believe that the new poison thrown off by the intestine would be sufficient in amount, were it all to take effect, to impart the same fever to a large community. Multiply this by 100,000, and we obtain a pretty fair approximation to the annual product.

If these calculations be well founded, one thing, at least, is clear—that a disease which is endowed with such vast provisions for the continuation of its species is not likely to die out for lack of heirs. Almost as soon might we expect mildew or tapeworm to become extinct for want of new germs. Indeed, were it not that in the disease, as in the animal and the plant, the greater part of what is provided for future crops perishes without issue, this fever alone had long ago decimated the human race.

If we now inquire into the mode, as to season and place, in which these 100,000 diseased intestines annually taint the soil of England with the fever product, some relations of great importance come at once into view.

As to the first of these conditions, the principal point to keep before us now is, that although some seasons, and autumn especially, are more favorable to the disease than others, there is no season in which it does not prevail.

In regard to the place, there is a distinction of the first consequence to be taken between cities and large towns, on the one hand, and villages and small communities generally, on the other. In villages, *whatever their sanitary state*, intestinal fever is often absent for many years together; in towns, above a certain size, it is never absent for a day. In the former, the infection is casual, and occurs only at intervals more or less remote; in the latter, it is perennial, and constantly going on.

The bearing of this on the dissemination of this fever in large towns may be best shown by an illustration:—

In the city of Bristol, which (including Bedminster and Clifton) contains some 140,000 inhabitants, I have calculated that, at the lowest estimate, from 600 to 1000 cases of intestinal

fever occur every year. When it is considered that in these cases the diarrhoea most probably lasts, on an average, more than a fortnight, we may gain some idea of the extent to which the sewers of this place are poisoned by the diarrhoeal product. From other data, it may be shown that there is no day in the year in which there are not from thirty to forty such cases pouring each their intestinal tribute into these channels.

It is further to be observed, that although the low and ill-drained districts furnish the greater number of them, there is no district that does not supply its contingent. Taking the year through, I find that there is no part of Bristol or Clifton that does not send to the Bristol Infirmary one or more fever patients. There is no division of the great subterranean network, therefore, which does not receive every year, at some season or other, its specific taint from the diseased intestines of these and other persons.

What is here stated of Bristol, is equally true of every large city in the kingdom\*. Fever is not all more prevalent here than in any other city of the same size and class. The necessary consequence is, that in every large city the sewers are constantly exhaling, at some point or other, and generally at a great number of points at once, effluvia directly proceeding from the most specific of all the exuviae thrown off by the fever patient.

In some seasons and in some localities these effluvia are more rife than in others; but there are none from which they are altogether absent. In some localities they must necessarily be often present in a highly concentrated form.

To inhale sewer emanations is, therefore, under conditions of the most frequent occurrence, *actually to inhale the very quintessence, so to speak, of a pre-existing fever*. This whatever it may be worth, is a fact of the most real kind. It is a fact that has been singularly lost sight of in all current speculations on this subject.

Assuming the intestinal discharges to have the principal hand in the dissemination of intestinal fever, we come at once, then, to the following deductions:—

1st. That, as a rule, this fever will spread the more, the less perfect the provisions for preventing the discharges from the human intestine from contaminating the soil and air of the inhabited area.

2nd. That where these provisions fulfil this condition, the disease will show little or no contagious power.

3rd. That its tendency to run through families will oftenest take effect where there is only a common privy; least often where there is a well appointed watercloset. That this tendency will be observed very commonly, therefore, in country places, and comparatively rare

\* See, in confirmation of this, Dr. Murchison's paper in the "Medico-Chirurgical Transactions" already referred to; also, the Annual Reports of the Registrar-General; and the Report on the Sanitary state of the people, by Dr. Greenhow.

ly amongst the wealthy inhabitants of large towns.

4th. That, generally speaking, the distribution of the disease will be different in country and in town: that in the country, where there are few or no sewers, and where consequently, the intestinal discharges accumulate around the infected dwelling, the disease will occur in a thickly clustered manner; that in the town, where these discharges are conveyed, often for long distances, by sewers, the ramifications of which extend through large communities, it will appear in a scattered form.

5th. That, as what the sewer receives from the fever patient is incomparably more virulent than anything else thrown off by him, the infection (until the true interpretation of the events be known) will appear, for the most part, *as if it had its source in the sewer, and not in the already infected man.*

6th. That in the country, the contagious nature of the fever will be obvious and unmistakable; but that in the town, it will most commonly be masked and obscure.

7th. That in the country, the fever will be epidemic and (as before indicated) thickly clustered; in the town, endemic and scattered.

8th. That separation of the healthy from the infected will be of no avail to prevent the spread of the fever, unless it include separation from the intestinal discharges also.

9th. That, for this reason, the severest outbreaks will be seen in schools, barracks, and other large establishments, where a single common privy is often alike the receptacle of the discharges from the sick and the daily resort of large numbers of healthy persons.

To appreciate the full strength of the case, we must bear in mind that with the exception of what relates to season and place, all that is here enunciated is elicited, not from observation of the events as they really occur, but as the result of *pure deduction* from the twofold assumption—that intestinal fever is contagious, and that the intestinal discharges contain the most virulent part of the poison by which the contagion takes effect.

These nine propositions embody, not the results of experience, but the anticipations of theory. If the two happen to offer an exact coincidence, is it not because the one is in reality the true expression of the other?

#### ON THE IDENTITY OF PARASITIC FUNGI AFFECTING THE HUMAN SURFACE.

By WM. TILBURY FOX, M.D. Lond.

In a former communication I endeavored to indicate the true nature of parasitic disease of the surface, and the prevalent errors concerning it. The present paper, based upon clinical evidence, is intended as a continuation of my former one, and its object is to trace the relation which exists between the different forms of parasitic growth.

It has often been observed that *certain* naked-eye and microscopic characters are not absolutely confined to *certain* varieties of tinea—that is, identical appearances have been noticed to be common, in a certain degree, to several so-called distinct affections; and this fact has helped to strengthen the belief that parasites are not essential to the production of tinea. Such is the inference of Mr. Hogg, who, admitting the existence of several *kinds* of fungi, thinks their occurrence thus promiscuously accidental and secondary. Mr. Hogg's views are prominently mentioned because he is the most recent observer in regard to this subject.

But there is another explanation, both possible and probable—viz. that the different appearances (of fungi) observed are merely varieties of one common species; in fact, that there exists but one tinea vegetation. The proof I have to offer, if inconclusive, at all events, tends to give credit to the truth of such an opinion. Dr. Lowe has led the way in this direction, in regarding the source of the fungi occurring in the tinea, as one or other species of *aspergillus* or *penicillium*. Before Dr. Lowe's researches were known to me, I had arrived at the conclusion that parasites found in skin diseases were of *one common nature*, and this not so much from artificial experiment, (like Dr. Lowe,) as an estimation of clinical data.

I should be unwilling to advance any such opinion as that now broached (an extension of Dr. Lowe's), until my facts are more numerous, were it not that I feel a check is greatly needed to correct the misinterpretation which is being put upon the facts of parasitic disease generally, in regarding the presence of fungi as secondary and accidental, and the existence of several essentially distinct fungi to be established by any satisfactory evidence. Let me give an example illustrating the point:—

In the *Medical Times and Gazette* for March 26th, 1859, there is a statement to the effect that M. Raciborski has found the *achorion Schönleini* in *plica polonica*; and “this is in favour of the opinion which is gaining ground, that this cryptogamous plant is an accident, and not an essential part of skin disease.” Certainly the fungus is not the cause of the actual skin (eruptive) disease, and in so far it is accidental; but it is the cause of the tinea (disease of the hairs) present. This fact of M. Raciborski is to be received as a great additional argument in favor of the common identity of fungi affecting the human surface. There can be no doubt, from the observations of Dr. Bidder and others, that the *plica (tinea) polonica* is the same disease as the ordinary ringworm of this country in a more flourishing condition; and this observation of Raciborski is important, if only as confirmatory of this truth, as will presently appear.

It is against “this opinion (secondary nature of parasites) which is gaining ground,” and which results, in part, from the belief in the existence of essentially distinct parasites, that I

contend; and I shall attempt to show that the evidence is defective. I am quite willing to admit that I am merely extending Dr. Lowe's views.

The supposed distinguishing features of tinea are to be found essentially in fluctuations of the following conditions:—

1. Secretion (including eruption).
2. Amount of disease—i. e., degree of luxuriance.
3. Rapidity of growth.
4. Seat of disease.
5. Microscopic characters of the fungi themselves.

Can these differences be explained in harmony with the supposition of the identity of parasitic fungi?

A careful survey of the group tinea, as a whole, can scarcely fail to make evident the fact of their forming a pretty perfect gradating series, as regards amount, degree, and rapidity of development, which may not be inaptly represented as follows:

A. The plant just growing upon a favourable soil, possessing little tendency to spread actively (the soil not being rich). This is the true tinea decalvans (idiopathic and rare).

B. The plant in a more favourable soil, producing more or less irritation, perhaps slight consecutive eruption. This class includes the milder forms of *T. tonsurans*, *chloasma* (or tinea versicolor), *herpes circinatus* (parasitic).

C. The plant *plus* secretion (consecutive eruption,) the result of the irritation produced by the fungus on a favorable (eruptive) soil. Here we meet with *T. tonsurans*, *plica* (tinea) *polonica*, *T. sycosis*, *T. favosa* (mild), and some (parasitic) chronic skin diseases.

D. Secretion exists (an index of the best possible soil); the plant finds its way to the subject, and flourishes most luxuriantly. This is tinea favosa in its severest forms.

Cases undoubtedly do occur which cannot be assigned to one category more than another; they are as much *T. favosa*, in a less severe form, as *T. tonsurans*; or as much *T. decalvans* as *T. tonsurans*, of a less severe degree. I have been told by good authority that such cases have not been seen: I do not assert the fact upon my own authority and diagnosis. More than this: in the same head you may have present the so-called characteristic appearances of several varieties; a patch of *T. decalvans* here, a patch in every respect like mild *T. favosa* there, and a patch of *T. tonsurans* there. This I saw very recently, beyond dispute, in an obstinate case which continued under my observation for a long time. It is contrary to the experience of many, I am aware; but I have noticed the difficulty, in several instances, of defining clearly the location of the particular instance.

But to return to particulars.

I.—The varying amount of secretion will explain much, and especially in regard to naked-eye characters. The possession of it in the

largest degree constitutes the essential feature of favus, the subject of which presents a more eruptive condition, and consequently a more fitting pabulum, than in the other cases. The parasite here flourishes best; the disease is the deepest, the most abundant, the most acute; fructification is at its highest, and the spores are largest and oval. In what other respect but greater degree of luxuriance does *T. favosa* differ from (severe) *T. tonsurans* or *plica polonica*? *T. favosa* can be produced from bad cases of *T. tonsurans* on a minor scale, by keeping up such an amount of irritation as, being less than sufficient to destroy the fungus, shall lead to the effusion of blastematous fluid (be it pustular, vesicular, or other), in which the plant will vegetate rapidly for a while, producing a crust depressed in its central part, and completely riddled by hairs in various stages of disease; the crust itself being composed of the normal elements of the part, effused fluid, and parasitic growth. This state of things, which I have been able to produce once or twice myself, will not reappear after the removal of the crust, unless fresh irritation be applied, and it fails in the less severe forms of *T. tonsurans*.

During the cure of favus, the aspect of the disease is modified, and approaches that of *T. tonsurans*. *Plica polonica* is the link between favus and *T. tonsurans*, in regard to external characters. The same line of remark will apply to the other varieties of tinea. The greater the amount of secretion, the better the soil, the more luxuriating the plant; the least flourishing state being that of *T. decalvans*, with its few and small sporules, and ill-developed, wavy (? Simon) mycelium.

II. Rapidity of growth varies with the variety of tinea: favus and *T. tonsurans* stand at the top of the list, and *T. decalvans* last. The rapidity of growth stands always in direct ratio to the degree of luxuriance. I mention this feature merely to correct a prevailing error in regard to *T. decalvans*, which is frequently said and taught to be of rapid production. True *T. decalvans* is of slow production. Alopecia and atrophy are both of rapid production oftentimes, but neither of these is distinctive of *T. decalvans*. The latter term should be confined to that form of tinea, whose chief features are *absence of secretion*, and less severity of the affection of the hairs, in consequence of which they do not break off, but remain till the follicle is so damaged as to retain them no longer. Now as this (the acme of the disease) is the first appreciable evidence (secretion being absent) of disease, it is mistaken for the commencement of the latter, which is hence called acute. The real mischief has been going on for a long time previously. Loss of hair (alopecia) is the result of follicular destruction, and is an effect of *T. decalvans* as much as of the other tinea.

The distinction between atrophy, alopecia, and tinea decalvans is important

III. *Differences in the seat of the disease as a*

*distinguishing feature.*—Parasitic disease of the general surface, as compared with that of the head, its especial seat, is modified in aspect on account of the insignificant amount of hair in the one case as compared with the other. I touched upon certain other points in my former paper (*THE LANCET*, July 9th last), but as regards the hair follicle itself more especially. The starting point of the fungoid growth, in every case, is the follicular orifice. (Wedl.) Comparing together the several varieties, we see that the part attacked varies only in degree of extent (depth). Favus stands again first on the list, *T. decalvans* last. In *T. tonsurans* the plant is said to affect the interior of the root; in sycosis, the seat is stated to be between the bulb and the follicle; in *T. decalvans*, outside the hair; in chloasma, the epithelium. It is very erroneous to suppose that the fungus is necessarily limited to these particular spots, and that herein is afforded any ground for distinction into separate species. The interpretation is sufficiently simple; the variations are of degree, not of kind.

IV.—Differences in minute (microscopic) characters of the fungi themselves are features which most consider sufficient to justify the usual distinction into separate kinds. Variations of size and shape of the sporules and mycelia are the only defined criteria.

There is no want of descriptions of the various fungi; authorities have been as elaborate in this matter as they well could be. No comparison has been made, however, (except by Dr. Lowe,) with a view to ascertain if there be any relation between the parasites, though many of the descriptions will apply tolerably as well to one as another fungus. I may not be allowed to be competent to form a just conclusion upon such a delicate point, but reflection and careful scrutiny have not failed to strengthen the opinion on my part, which regards them as varieties (or stages of luxuriance) of one essential parasite.

*Size.*—Microscopic differences, be they ever so slight, are, of course, of great value and weight. In reference to this point, as in every other, the same order of precedence is observed by each variety of tinea. *T. favosa* has the largest sporules, and *T. decalvans* the smallest; so in regard to the mycelia. Now take the measurements usually given of these two extremes, and mark how little variation obtains between even these, and consequently none between the intermediate sizes, and how little reliance can be placed upon size as a distinguishing feature. The largest sporules of the microsporon Audouini are larger than the smallest of the achorion Schönleini. Gruby gives the measurements of the achorion .003 to .01 mm.; of the microsporon Audouini .001 to .005 mm.; those of the trichophyton the same as of the achorion. Even in the same variety of tinea, the size of the sporules varies considerably. The amount of fluid (secretion) perhaps influences as much as anything else the magnitude of

the fungoid elements. I do not refer to the artificial addition of fluid under the microscope. An appreciation of the facts of size, taken in connexion with concomitant circumstances, will scarcely justify the division of parasitic fungi into separate and distinct kinds, but merely the inference that greater size of sporules is coincident with greater luxuriance of plant.

*Shape.*—One of our leading authorities has very lately stated this matter of shape to me thus (in reply to my assertion that parasites were identical): "When I see the oval character so fully maintained and appropriated by the achorion, and the round by the trichophyton it appears to me to be a test and distinction of great value." Now, I deny that the oval is the shape peculiar to the achorion—at any rate that it is seen only in *T. favosa*. In the more severe forms of *T. tonsurans*, if there be a good amount of secretion present, you may find large oval sporules interspersed with others of the trichophyton, of normal shape (round), in the soft growing part at the bottom of the follicle (liquor potassæ being used). This is not common I admit. Then, again, large oval spores have been detected by Raciborski in *plica polonica* (achorion Schönleini he calls them). The oval shape seems to be a more developed condition of sporule, a commencing elongation into the tubular form. To all appearance, the oval sporules which I have seen in severe *T. tonsurans* were those usually described as the achorion Schönleini.

The minute as well as the general characters of several varieties of the tinea may be present in one and the same case. At the outset I mentioned a case of the kind (in a woman forty-three years old).

Two statements I am going to make will be received with suspicion; I therefore do not utter them without being perfectly satisfied of their correctness. Any reason to doubt their truth would at once prevent my stating them.

Twice, in hunting about between the epithelial lining and the hair in severe tinea tonsurans, where the sporules were plentiful, I met with some largish oval sporules (achorion?), accompanied by certain bodies (five or six) which resembled the *sarcina ventriculi*, and seemed to be produced by the junction of four cells. (I had before observed occasionally two or three sporules joined together, and the effect of the reagent has been to swell them up, and obliterate in great measure their distinctness as separate cells.) So much did their resemblance to *sarcinae* hold good, that had they been found in vomited matter, no one would have hesitated in instantly pronouncing them *sarcinae*. It was the popularity of their seat alone which gave rise to doubt as to their nature. They were, perhaps, small, and the angles slightly more rounded than usual, if there was a difference.

Again, on one occasion I observed an appearance exactly resembling the torula, sprouting from the bottom of the follicle.

Arnsted of Christiana, seven or eight years ago described a fungus as occurring in favus, which, from its likeness to the corn parasite, he called *puccinia favi*. Mr. Hogg has noticed it in *tinea tarsi*. I have been unable to find it at present, but have noticed a condition of mycelium not unlike it, and which might be mistaken, I can conceive for the *puccinia*. The mycelium sometimes seems to increase in breadth at the expense of the length, so to speak, and hence it becomes very short and broad—as though it were growing in a confined space, and unable to elongate. There is nothing in the microscopic history of the parasites of the human surface which contradicts the reasonableness of the opinion which regards them of one common nature (identical); and the minute differences may be readily explained by the variation in the several concomitant conditions of secretion, heat, and the like. Viewing them generally, as a whole, the *tineæ* do form a tolerably perfect series; and whatever may be said to the contrary, there exist undoubtedly connecting phases between many of the separate varieties.

This mode of reasoning may be deemed deficient, but it may still be urged that these different appearances are really insufficient to establish the existence of different fungi, which occur (promiscuously) in the various forms of *tinea*. Well, what does clinical evidence say? Will one variety produce another? Are the *tineæ* mutually producible?

*First in regard to the tinea favosa*.—I remember Dr. Jenner telling his clinical class, some time ago, that at one time was admitted into the Children's Hospital a case of favus. No one caught the disease, though the children played together. But by and bye in came a case of herpes circinatus. Several children were attacked by it, and at once two of them had *T. favosa*. Well, this looks as though the herpes circinatus were contagious. The parasite in the herpes circinatus was better adapted to grow on the soil it found than the more developed condition of fungus in the favus; and increasing in the usual manner (circularly) in an apt subject, herpes circinatus resulted. The *achorion* (favus) required a better soil than existed before the admission of the herpes circinatus. It would be interesting to know if there were any case of severe eruption in the hospital at the time the favus was there; if so, we should have expected favus to have been produced in the eruptive subject. The facts show the relation which favus bears to the other varieties, and contain suggestions for future inquiry. A case has been mentioned of *T. tonsurans*, in which, by producing secretion by irritation, a favus crust was formed. Hebra believes that the favus and *tinea tonsurans* are identical (different stages of one disease). Müller, Retzius, Remak, and Lebert, classify the *achorion* with *oidium*.

*Now as to tinea tonsurans*.—Mr. Hutchinson's observations tend to show that the growth of the

trichophyton may produce *chloasma*. He asserts that he has traced the communication from the scalp of infants at the breast affected with *tinea tonsurans*, and the proof seems sufficient; but I believe also that *chloasma* may be produced by the implantation of the *oidium albicans*. Guersent, I think, some years ago, hinted that "thrush" might be communicated from the child to the mother's breast. I recorded a case in my former paper, which was observed very closely from the outset, and which I believe, arose from the growth of the *oidium*. The case was that of a young woman, a patient in the General Lying-in Hospital. No *tinea* was or had been present, but almost all the infants in the hospital suffered severely from thrush, and the child of the patient in question was, amongst others, attacked. Taking all the facts into consideration—the seat, the mode of onset, and the negative evidence—the conclusion that the *chloasma* of the mother was caused by the implantation of the fungus of the thrush seemed inevitable and certain. The patient herself was a little "out of sorts," and perspiring freely.

*Herpes circinatus (parasitic variety)*.—We know favus may spring up in a patch of herpes circinatus. The latter may also give rise to *T. tonsurans*. Very recently a case of *H. circinatus* (parasitic) of the forehead and temple, in a young woman (out of health), came under my notice. The minute characters of the patches were those of *T. tonsurans*, which are always displayed by a parasitic herpes circinatus. Now, curiously enough, the disease extended upwards, and at length reached the scalp, where it altered its aspect, assuming all the naked eye and minute appearances of *T. tonsurans*. The herpes circinatus, reaching the scalp, became, so to speak, *T. tonsurans*. Be as sceptical as one might, the case seemed to have left no room for doubting the intimate relation existing between the two affections. From what I have seen of herpes circinatus, I think there is good reason to believe that it may give rise to *sycosis*. The case above seemed to exemplify this in a singular manner. It so happened that on my own lip were two or three vesicles of simple herpes, just disappearing at the time the case came to me. I spent a good deal of time in examining the patches closely with a common lens, from day to day, and the fungus by some accident became implanted upon my face—at least I presume so, for the herpes became very irritable and inflamed, and pustular; indeed, unless I had used pretty active treatment, a promising patch of *sycosis* would have sprung up. The hairs at their cut ends were actually split up by the fungus, which was making its way down the follicle. The whole disease consisted only of three or four pustules, still the effect and presence of the fungus were diagnostic.

Again "*sycosis*" in its turn may be produced from *tinea tonsurans*. Some time ago one or two members of a family became affected with well-marked *tinea tonsurans*; the father subse-

quently had not *tinea tonsurans*, but *sycosis*, (in all probability produced by contact with the children.) Dr. Lowe has given evidence of the production of *favus* and *sycosis* from the implantation of the yeast-plant. But recently (April) the grandmother of a numerous family, seven of whom were the subjects of *tinea tonsurans*, presented herself with a large patch of parasitic *herpes circinatus* on the left arm (unsymmetrical), the hairs of the part being infiltrated with sporules of the trichophyton; and subsequently the mother of the family herself has been affected like the grandmother, they all living together. *En passant*, I may mention the instance of a white cat, a great pet with the children of a family of nine, which evidently contracted the "*mange*" and *tinea tarsi* from *T. tonsurans*, which attacked five of the children. (The fungus of "*mange*" is the trichophyton.)

*Plica Polonica*.—Of this I have no experience. The observations of Dr. Bidder make it the same as the ordinary ring-worm of this country, which is confirmed by the occurrence of the *achorion* in it, as lately stated by M. Raciborski. I have stated that I have seen large oval spores (*achorion*) in *T. tonsurans*. I have been as brief as possible in my remarks, perhaps not explicit. I hope to have shown, if not the certainty, at least the probability, that parasitic diseases are mutually convertible; that differences of seat, soil, moisture, heat, and the like, account for the differences in observed appearances; that there is nothing in the microscopic history of the diseases which establishes any essential divisions between the different varieties; that their clinical history confirms this view; that *T. favosa* probably can be produced from *T. tonsurans*, the latter from *herpes circinatus*, and *vice versa*, (case of mother and grandmother quoted); that *herpes circinatus* may give rise to *sycosis*, (Mr. Hutchinson has shown that *chloasma* may be produced from *T. tonsurans*); that *chloasma* may be also produced from the implantation of the *oidium*; again, that *sycosis* may be produced from *T. tonsurans*; again, *T. favosa* and *sycosis* from the yeast-plant, (Lowe); and last, I may add that I believe I have succeeded in saccharine solutions in producing the *oidium* from the *torula*. The fact of finding the *sarcinae* and *torula* in the instance before mentioned must not be forgotten in appreciating the question of the identity of parasitic disease. The nail fungus, according to Virchow, is an *aspergillus*; and, according to Kückenmeister, an *aspergillus* or *oidium*. Meissner makes it *achorion*. The ear fungus is said by Robbin to be *aspergillus*: a *mucoor* by Slayter. These statements indicate some close relation between the different fungi.

Such are the facts I have at command at present. Do they justify the inference I have drawn? The demand for fuller explanation cannot be satisfied in this paper. Nothing but facts have been dealt with, and the material, if

meagre, is none the less suggestive for future inquiry.

To conclude—

1. *Tinea* (the generic term for parasitic affections of the surface), which is disease of the hair, and not an eruptive one, must be regarded as essentially and primarily caused by the growth of a fungus, since the characteristic effects (upon the hairs) are never produced without such growth.

2. There exists but one parasite common alike to several so-called distinct kinds of *tinea*.

3. The variations are mostly in the external character of the *tinea*—in the superadded rather than in the essential conditions of the disease; for the parasitic growth varies but little, and that only in *degree*, not in *kind*.

4. The superadded concomitant states (especially eruption, seat, and the like), by their variation, fully account for the observed differences in physical and minute appearances.

5. A certain soil is requisite for the growth of the *tinea* vegetation; and that furnished by the non-specific eruptive diathesis is the *necessary* one.

6. The treatment consists of general measures to correct the soil, and of local measures to destroy the parasite.

It is not improbable that future experience will show that parasitic growths of the mucous membrane are derived from the same source as those of the surface, the difference of habitat, &c., fully accounting for the varied results. They are in this latter situation correctly, practically regarded, *per se*, as of little moment beyond the indication that the type of the accompanying ailment is adynamic, and that the condition of soil is the disease demanding attention, (there is not present any structure like the hair of the scalp upon which they may produce perceptible and serious result.)

It would be far from desirable to alter the nomenclature now in use, if it were correct to do so, since the treatment varies according to the aspect the *tinea* bears, and it is as well to have some mark to indicate the same.

Any one of the ordinary skin diseases may become complicated by the growth of a parasite which attacks the hairs of the part, however small and few they may be; and the affection is then a complicated one—a parasitic eczema or parasitic herpes, &c. &c., being set up. Hence the distinction of skin diseases into parasitic and non-parasitic is not altogether an unimportant one; for, in the former class, general treatment is resisted, or ineffectual, perhaps, on account of the presence of a local cause of irritation which requires direct treatment.

in Gloucester-gardens, Sept. 1860.



## SEQUEL TO A CASE OF ENCEPHALOCELE.

(Vide THE LANCET Dec. 1857, page 461.)

BY RICHARD EAGER, Esq., M.R.C.S., Guildford.

L. W——, the subject of the case of encephalocele reported in THE LANCET, as above, died on the 10th of August last, at the age of two years and a half. In the account of the case alluded to, it will be remembered that the tumor was punctured by a small trocar on August 25th, 1857, and a large quantity of serum evacuated, when the tumor collapsed. It, however, soon became distended again to its original dimensions, but subsequently gradually, though slowly, shrank to its present size, without any local treatment so far as I know.

During many of the first months of her life, the child grew, and her development (with one exception) advanced as healthily as in the generality of children. She took food in sufficient abundance; her nutrition was perfect, and, until the last seven or eight months, she was a plump and healthy-looking child. The process of dentition occurred somewhat earlier than usual; the eight incisor and four bicuspid teeth being completely "put up" by the completion of her sixteenth month. During dentition she occasionally suffered from irritable bowels and deranged digestive function, but not more than is usual amongst children under such circumstances. She had one convulsive fit, which yielded to the ordinary remedies. The exception to the natural development of organs was the head. In the earlier months of her existence the head was smaller than natural, especially the vertical and frontal positions; the forehead receded considerably, yielding a more acute angle with the face than usual. After a time the head increased in dimensions, and gradually became, in all its characteristics, a hydrocephalic one. The sutures never united; the frontal bone assumed an obtuse wedge-like form, the obtuse angle being in the line of the division of the bone in fetal life. On the post-mortem examination, the entire bones of the cranium were found extremely thin, and deficient of ossific matter, being diaphanous in relation to transmitted light. The child was greatly deficient with respect to muscular power; she never manifested any ability to use her lower limbs as means for progression or support. She had permanent double convergent strabismus; the pupils were influenced by the stimulus of light, although sluggishly, their general condition being unusual dilatation. She had no control of language, even of the simplest words; but she evinced a certain amount of intelligence, by smiles and sounds of satisfaction, and the opposite. She was able to recognise her parents, and those to whom she was accustomed, and to distinguish them from strangers. During the last few months emaciation advanced rapidly, and at death the child was literally "a bag of bones."



*Autopsy, fifty-five hours after death, (in which I was assisted by my friend, Mr. H. S. Taylor.)*

—Extreme emaciation; the head greatly enlarged; a line carried around the head immediately above the orbital processes of the frontal bone and tuberosity of the os occipitis measures eighteen inches and a half; from one meatus auditorius to the opposite one, thirteen inches and a half; and from the nasal process of the frontal bone to the occipital protuberance, thirteen inches and a half. Projecting from the occipital region, there is an irregularly-formed, roundish tumor, covered above by a prolongation of the integument of the scalp, sparsely scattered over with hair, which, after being reflected over the inferior surface of the tumor, becomes continuous with the integuments of the neck. This tumor measures, in a longitudinal direction, four inches and three-quarters; the largest transverse circumference eleven inches and a half; smallest transverse circumference at peduncle, seven inches and a half; length of tumor and head together, in a line over the ear from the extremity of the tumor to a point in a line with the most projecting part of the forehead, thirteen inches and a half. The distal extremity of the tumor is covered by markings resulting from corrugations produced by the contraction of the former enormously-distended integumental covering of the primal condition of the tumor. The sutures are all ununited; each separate bone of the head can be traced distinctly, and moves readily beneath the scalp over the contained mass, whilst upon slight pressure the lines of division are marked by a bulging outward of the scalp; a large venous trunk is seen over the right parietal region. An incision was made through the scalp, commencing slightly in advance of the right ear to the same point on the opposite side; from the centre of this incision another was projected backward in the course of the longitudinal sinus, through the centre of the

upper aspect of the tumor to its distal extremity, thus forming two triangular flaps, which were reflected, and the right parietal bone dissected out, and the dura mater exposed. It was much less dense in structure than natural. The tumor was next opened: the corrugated integument forming its covering was three-quarters of an inch thick, and extremely dense at its hinder part; but near the occiput was little changed from the normal condition. On being opened, a small quantity of serum escaped, and it was seen to be lined by a highly polished and white membrane, greatly resembling a serous one in its appearance, having in close contact with it the dura mater. A careful section of this covering, through the entire length of the tumor, exposed a pellucid membranous bag (the valvula Vieussensii?), distended by a clear fluid, having the posterior half overlapped by a highly vascular and pulpy mass of brain, which retained a sufficient amount of organization and arrangement of the cerebral matter peculiar to the cerebellum to indicate that it was that organ in an abnormal condition and position. Upon the accidental rupture of this membranous bag (the fourth ventricle?), a pale straw-colored serum, in quantity seven or eight ounces, escaped, and the hemispheres of the brain immediately shrank in size, losing their upward convexity, and assuming a downward curve in their outline. The falx major was next removed from its connexions, the hemispheres sliced off upon a level with the corpus callosum, and the centrum ovale exposed. The lateral ventricles were opened, and found deluged with serum, of which thirty-six ounces were collected altogether. On removing the mass of brain from the base of the cranium, the tentorium on the left side was found to be obliterated, and the left posterior lobe of the cerebrum was resting upon that part of the os occipitis which is the normal site of the left lobe of the cerebellum. On the left side, the tentorium was *in situ*, supporting the right posterior lobe of the cerebrum. On removing it, an irregular opening, of about half an inch in diameter was discovered in the os occipitis, immediately below the lateral sinus, and a little to the right of the vertical median line of the bone. On removing a triangular portion of the os occipitis, the apex of the triangle being at the abnormal aperture, the dura mater was traced passing through it, together with what appeared to be the crura cerebelli, after the manner of an intestinal hernia. A soft white mass of cerebral matter was resting upon the os occipitis near to the opening, which was presumed to be the medulla oblongata, dragged upward from its natural situation. The spinal canal was not inspected.

The softened state of the entire cerebral mass, as well as the displacement of the cerebellum and its connexions, prevented the examination being as critical with respect to the relative position of organs as might have been desired; but I trust that the above imperfect

sketch of the after-death appearances will form an important addition to the history of this very remarkable and highly interesting case of a rare disease.

Guildford, Sept. 1859.

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## A Mirror OF THE PRACTICE OF MEDICINE AND SURGERY IN THE HOSPITALS OF LONDON.

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Nulla est alia pro certo noscendi via, nisi quam plurimas et morborum et dissectionum historias, tam aliorum proprias, collectas habere et inter se comparare.—MORGAGNI. *De Sed. et Caus. Morb.*, lib. 14. Prooemium.

### GUY'S HOSPITAL.

*Case of Anæmia Lymphatica, a new disease characterized by enlargement of the Lymphatic Glands and Spleen.*

(Under the care of Dr. PAVY.)

Much interest was excited amongst the profession by the announcement of Dr. Wilks, at one of the meetings of the Pathological Society during the past session, that the morbid specimens which he exhibited were taken from a patient in Guy's Hospital, whose disease was new, and hitherto unnamed. The essential features of the disease are the most extreme pallor of anæmia, enlargement of one or more of the various groups of lymphatic glands, either internal or external to the body, and a peculiar morbid condition, with occasional enlargement, of the spleen; the last depending upon the deposition of an opaque, white, lardaceous material, in isolated masses, or diffused throughout the substance of the organ, and resembling bacon-rind. The malady is so striking, and yet so peculiar, that when carefully studied it is almost impossible to mistake its identity. Six cases are detailed in the second volume (third series) of "Guy's Hospital Reports," in a paper by Dr. Willis, "On Cases of Lardaceous Disease and some Allied Affections." All of them proved fatal, as well as those which have since come under our notice. The peculiarities noticeable in these cases were as follows:—

Case 40.—Enlargement of the lumbar and posterior mediastinal lymphatic glands, forming a chain of tumors along the whole length of the spine upon each side of the aorta; spleen enlarged, opaque white deposits through it: age twenty-four.

Case 41.—Lumbar glands much enlarged, and accompanying the aorta along the spine to the pelvis; mesenteric and bronchial glands enlarged; spleen large, with a number of ovoid white bodies: age nine years.

Case 42.—Cervical, mediastinal, bronchial, and lumbar glands enlarged; spleen four times

larger than natural, three-fourths of it resembling opaque white tallow : age ten years.

Case 43.—Lymphatic glands of neck, groin, and around the great vessels in the chest and abdomen, enlarged ; spleen had a few white tubercles : age sixteen years.

Case 44.—Great enlargement of the absorbent glands of the neck, axilla, and groin ; spleen enlarged, with an infinite number of small, white, opaque deposits : age fifty.

Case 45.—(Dr. Markham, 4th vol. "Transactions of the Pathological Society.")—Enlargement of anterior and posterior mediastinal glands, encircling the arch of the aorta ; spleen enlarged, with small yellow masses throughout : age thirty.

Some other instances might be added to these ; but it will be sufficient to append the following, shown to the Pathological Society in the course of its last session :—

"Enlargement of the cervical, mediastinal, and lumbar glands ; the spleen much enlarged, with white deposits throughout : age twenty-two."

The enlargement of the lymphatic glands, which thus seems the peculiar feature of this malady, is remarkable for the lingering form of fatal cachexia which it produces. The extreme pallor of the patient—as we have witnessed at this hospital—at once attracts the attention of the observer.

In relation to the six cases we have briefly noticed, Dr. Wilks observes, in regard to the symptoms during life and the appearances after death—"Their uniformity is too considerable to constitute merely a coincidence of disease between the glands and the spleen, and therefore there is, without doubt, a peculiar form of affection involving these organs, accompanied by an anæmic cachexia, prostration, and death. I say a peculiar affection ; for although allied to the tubercular, I believe it to be one not yet recognized under the ordinary forms of disease."

This affection has been mistaken for scrofula, especially where the glands in the necks of weakly children have commenced to enlarge. It occurs to persons of all ages. It may gradually extend over a period of two or more years, when the thoracic and abdominal glands become involved, and slow prostration precedes death.

The intimate structure of the enlarged glands is a fibro-nucleated tissue, and this is not to be distinguished from ordinary fibro-plastic growths. Dr. Hodgkin described a case of this kind in the seventeenth volume of the "Medico-Chirurgical Transactions," in which he refers to its connexion with a peculiar affection of the spleen ; but he affixed no name to it. Dr. Wilks correctly styles it *anæmia lymphatica*, which is a very distinctive appellation, the anæmia being the most important result, and tending to the fatal issue. Moreover, it is a simple and good name for it, as he thinks it indicates the most important condition of the malady, and the one often only recognizable when the enlargement

of the glands is entirely within. There is no excess of white corpuscles in this disease similar to that observed in the *leucocythæmia splenica* of Bennett, but rather a deficiency of the red, as was observed in the following case, for the notes of which we are indebted to Mr. Hugh Bennett, clinical clerk to the hospital. In this instance, the duration of the disease was three years and a half, and the extreme whiteness of the skin resembled the anæmia of females who have lost much blood. The anæmic bruit was also present.

William B—, aged twenty-seven years, was admitted, on June 8th last, into Job ward. He was a single man, by occupation a gunmaker, and residing in Fleet-street ; states that his health has been good up to three years and a half ago, excepting having had an attack of inflammation of the bowels fifteen years since, and three attacks of gonorrhœa four years ago ; he had a chancre on penis, no sore throat, no bubo, nor eruption ; six months afterwards had enlarged glands in the left groin, which have increased in size ever since ; he was never of dissipated habits, and always kept good hours. His parents and brothers are healthy ; no history of scrofula in the family. Three years and a half ago, he noticed a small lump in the left groin, accompanied with a slight pain. It was the pain, and not the lump, which chiefly attracted his attention. The pain he described as dull and aching, descending the left thigh as low down as the knee, the thigh being at the same time slightly swollen, and also ascending obliquely backwards towards the small of his back. Twelve months ago he was an inmate of St. George's Hospital, under the care of Mr. Hawkins, who treated him with iodide of potassium and cod-liver oil internally, and tincture of iodine locally. He was presented by Mr. Hawkins, at the expiration of eight months, slightly relieved. He resumed his original occupation, and followed it for a short time, until he became so weak that he was compelled to give it up.

The patient is a man of middle stature, light complexion, grey eyes, and light hair ; presenting all the appearances of having lost an abundance of blood—suffice it to say, however, that he has not lost any ; skin of his body generally extremely white, hot, and pungent ; conjunctivæ watery. Chest well formed, mobile during respiration, and resonant on percussion ; equally resonant posteriorly. Lungs healthy. On listening to the sounds of the heart, there could be heard indistinctly a systolic bruit in the course of the aorta, ("anæmic bruit diagnosed.") He never had rheumatism or pain in his limbs. His voice is strong and clear ; tongue moist and clean ; has evidently an enlarged spleen bulging out of the left hypochondriac region ; it can be distinctly felt through the abdominal walls ; has enlarged glands in the left groin, about the size of a goose's egg ; no other glands perceptibly enlarged ; has general anasarca ; skin pits on pressure in every part of the body and extremi-

ties; urine healthy, specific gravity 1017; bowels open; motions of a clay color, "pale."

Mr. Stocker, the apothecary, saw the patient on the 8th of June, and ordered the following medicine: two grains of iodide of potassium, in an ounce of julep of ammonia, three times a day.

June 9th.—He had a good night. His blood was examined microscopically this morning, and was found to contain an excess of white corpuscles, "comparatively speaking;" but, in reality, there seemed to be a deficiency of the red corpuscles, rather than an excess of the white.

11th.—Dr. Pavy prescribed five grains of the citrate of iron, with quinine, thrice a day.

13th.—Has a severe headache this morning, and a troublesome cough is coming on, without any expectoration. To have five grains of extract of conium night and morning; also, five ounces of wine daily.

16th.—Feels better since he has had the wine; cough much about the same. Ordered, lactate of iron, five grains; iodide of potassium, two grains; syrup of poppies, half a drachm; water, an ounce: three times a day.

18th.—Expresses himself as being better; lower extremities still very cedematous; coughs a good deal at night.

July 4th.—Thirst excessive; appetite lost; expectoration more abundant, of a bluish grey, slightly frothy character, and strongly adherent to the bottom of the utensil.

8th.—The patient evidently seems much worse; lies prostrate in bed; is not able to sit up for five minutes together; mouth and tongue very dry, the latter being brown in the centre, and white along the margins.

9th.—Had a very restless night; respiration became hurried; pulse quick and feeble; eyes turned upwards; mouth wide open, and dry. Ordered, eight ounces of wine; ammonia and serpentaria.

10th.—Unconscious; lies on his back, with his head thrown backwards; pulse rapid, and extremely feeble.

11th.—Expired at six A.M. Died quietly.

*Post-mortem examination thirty-three hours afterwards*—On opening the thoracic cavity, it was found to contain a larger quantity of fluid than is usually met with in health, and an excess of fluid was also found in the pericardium. Lungs free from adhesions; patches of softening were here and there found on cutting into them. Liver, kidneys, and heart healthy; the latter contained no clot, except a very small one in the left ventricle; blood being remarkably thin, like port wine and water mixed. Spleen enlarged; weighed twenty-four ounces and a half; full of white tubercles. Lumbar glands greatly enlarged; inguinal glands also enlarged.

## CHARING-CROSS HOSPITAL.

*Chronic Diuresis in a Man aged forty, who passed Fifteen pints of Urine daily; employment of Belladonna, &c.*

(Under the care of Dr. WILLSHIRE.)

When a patient comes under the notice of the physician with a dry skin, great thirst, and extreme diuresis, a suspicion is entertained that the malady may be diabetes, and an examination of the urine is instituted to clear up the matter. If the specific gravity ranges from 1035 to 1045, the probability is that a large quantity of sugar is present, which will be determined in the usual manner. If, again, the specific gravity is very low, say 1002 or 1005, it may turn out to be an instance of what was formerly called diabetes insipidus, and now commonly known as *chronic diuresis*, (the hydruria of Willis, and polyuria of Elliottson.) Not a trace of sugar is present in the urine in this affection, although it has been most rigorously searched for in the case which we now place upon record, wherein several gallons of urine were evaporated to a small bulk for the purpose of such inquiry. The similarity between diabetes and chronic diuresis is the large quantity of urine passed, and the presence of thirst and dry skin, renders an examination of that fluid necessary to diagnose between the two.

As regards the immediate locality involved in chronic diuresis, the views of Bowman, Golding Bird, and others, would seem to place it in the Malpighian corpuscles, which thus secrete this large quantity of urine; and supposing there is no organic disease of the kidney itself, and that it is merely an exaggerated functional activity, and is allowed to go on, sooner or later organic mischief is sure to follow. It becomes incumbent, therefore, to arrest this morbid process, which, in its reflex or reactional effect on the system, (as evidenced by the constitutional symptoms of fever, thirst, general irritation, &c.) will become of serious import to the patient. The little information we possess of the disease, and the feeble hold we have upon it by treatment, render it one of peculiar interest. In the case related by Dr. Watson, in his "Lectures on the Practice of Physic," the duration of the disease was three years, and after death, tubercles were found in the brain and lungs of the patient (a boy). It may last for a much longer period, however, as in the case quoted by Willis, of a man of fifty-five in the Hôtel Dieu at Paris, who had been affected with it since the age of five years, and who had consumed daily since he was sixteen two bucketfuls of water, and discharged a commensurate quantity of urine. Like diabetes, diuresis is apt to end in phthisis; but it is a noteworthy fact that sometimes it is followed by the former affection or mellituria.

A somewhat similar case to the subjoined was under Dr. Willshire's care in the same hospital about two years ago.

C. S.—, aged forty, a hawker, was admitted

on the 7th of June. He was in good health up to the 12th of May last, when he caught cold, and suffered thirst so that he drank from four pints to a gallon of water daily, besides beer and tea. He soon began to void from ten to twelve pints of urine in the twenty-four hours; and although his thirst was great, his appetite was bad. He was unable to sleep at night, being obliged to rise half a dozen times to micturate. When admitted, he passed fifteen pints of urine per diem, of a very pale-straw color, quite clear, specific gravity 1002, and free from sugar by the ordinary tests. From that time to the 27th June, the treatment consisted of warm baths, Dover's powder, opium, tincture of the sesquichloride of iron, and quinine. By this the urine was reduced to seven pints daily, with the specific gravity varying from 1001 to 1007, and containing no albumen. On the 27th, he was ordered a sixth of a grain of extract of belladonna, with two grains of quinine, three times a day. He now passed, in the twenty-four hours, six pints and a half of urine, of specific gravity 1006.

From the 30th June to the 7th July, the belladonna and quinine were continued, the former being gradually increased until some symptoms of atropism made their appearance, when the dose was diminished. He now passed eight pints of urine during the day, of specific gravity 1002. He stated, however, that he felt much better; his mouth was not so dry, and he was not so thirsty. His bowels always remained costive. He went out on the 14th ultimo, when the specific gravity of his urine was 1006.

During the day of his stay in the hospital, the weather being very warm, he was ordered to walk in the sun to induce perspiration. The reason for giving belladonna was, that, as it is one of the best remedies for allaying the irritability of the lower urinary organs, it might have some influence on the higher organs,—namely, the kidneys themselves. While the patient was in hospital, six gallons of his urine were collected for analysis by Mr. R. V. Tuson, the teacher of chemistry, who had some idea that a *minute* quantity of sugar might perhaps exist in such cases as the present. This quantity was evaporated down to a very small bulk, filtered, and most carefully and repeatedly tested for sugar, both before and after boiling, with dilute sulphuric acid, but no indication of the presence of saccharine matter was obtained. Another portion of fresh urine was allowed to stand in a warm place, in order that torulæ might become developed if any sugar was present, but none were observed.

#### MIDDLESEX HOSPITAL.

*Suffocation from a Tumour in the Throat, in a case of Pleuritis and Bronchitis.*

(Under the care of Dr. HENRY THOMPSON.)

Chronic enlargement of the tonsils is such a common affection, and one that is so frequently allowed to go on for years unattended to on the

part of the patient, that it often leads to the overlooking of some swelling of more importance; or, again, a tumour behind the tonsil may be mistaken for an enlargement of that body. Mere tonsillar hypertrophy, although frequently subject to attacks of inflammation, seldom, indeed, produces suffocation; but it is otherwise with tumors about the fauces, for when they have attained even a moderate size, they cause dyspnoea and dysphagia, and very speedily prove fatal. Two instances of this kind we recorded in former "Mirrors:" one under Mr. Curling's care at the London Hospital, that of a man who had a fibrous tumor of the throat successfully removed; the other, one of fibrous tumour of the pharynx, attached to the base of the skull, in a lad of sixteen, at St. George's Hospital, whose entire upper jaw was successfully extirpated by Mr. Tatum. In both of these cases, the dyspnoea was most painful, and in the second there were frequent attacks of hæmorrhage. Suffocation would have destroyed life in both instances, had not operative interference been resorted to in time. They however, entered hospital specially for their throat obstruction. This was otherwise in the case which we had the opportunity of seeing under Dr. Thompson's care at the Middlesex Hospital, the history of which is briefly as follows:—

Mary R—, aged thirty-seven years, was admitted into Northumberland ward, on the 9th of August, with a well-marked attack of pleurisy of the left side, associated with bronchitis. Besides the physical signs of these two affections, there were symptoms of cerebral disturbance, and apparently some functional (not organic) disease of the heart. Her throat was examined, and there appeared to be an enlargement of the left tonsil, but it was not so in reality, for a distinct and solid tumour could be felt behind it. She continued under treatment for nearly a fortnight, when the breathing became embarrassed, from the pressure exercised by the growth. It commenced to bleed; the hæmorrhage became alarming, and could not be arrested. At the request of Dr. Thompson, an attempt was made by Mr. Flower to put a ligature on the carotid artery; but the suffocation had been so speedy, that before the operation could be completed death ensued, on the 23d of August, at half-past two o'clock p.m.

A careful post-mortem examination was made by Mr. Flower on the 24th, when a tumour of a somewhat oval and flattened form, two inches long, was removed from the throat. It was movable and circumscribed—characters belonging to the "fibrous tumour of the fauces" described by Mr. Syme (*THE LANCET*, vol. i. 1856, p. 51)—and was in direct contact with the vessels given off by the external carotid artery, as well as the main trunk itself. A section showed it to be a fibro-cartilaginous growth, of an irregularly firm consistence; it was not vascular, but was supplied by a vessel a line in diameter; the tumour, however, had considerably shrunk,

for during life it must have been as large as a small apple. The trachea and bronchial tubes were partly filled with watery blood, which no doubt had entered during the hæmorrhage from the tumour, and must have hastened the suffocation. There was effusion of serum in the left chest; both lungs were affected with interlobular emphysema, a moderate hypostatic congestion existing at the posterior part of the right. The brain was healthy, but somewhat diffuent. The gall-bladder contained several calculi; the liver weighed 3lbs. 3oz. The other organs were not in a healthy condition, but nothing was present to require special notice.

In this patient, the tumour of the fauces had no doubt been growing for some time. Her admission into hospital, however, was sought on account of the chest disease. Considering its position in relation to the great vessels of the neck, its removal would have been a hazardous proceeding.

#### UNIVERSITY COLLEGE HOSPITAL.

*Injury to the Leg, followed by Mortification; Amputation of the Thigh; Extension of Gangrene to the Trunk; Fatal Result.*

(Under the care of Mr. ERICHSEN.)

In the following case, the extremely bad constitution of the patient, from the causes mentioned, materially influenced the occurrence of gangrene which appeared below the seat of injury on the fourth day, and spread rapidly towards the thigh. Amputation was at once performed, the good results of which were but temporary; for delirium set in, with a return of the mischief in the stump, extending upwards to the trunk, especially around the abdomen. A fatal result ensued on the sixth day, being the second day after the first appearance of the mortification. The prognosis was necessarily unfavorable the moment the leg was destroyed. Mr. Erichsen, following his usual practice (as inculcated in his writings), removed the limb without waiting for a line of demarcation to form. Although the gangrene was local, and consequent upon the injury sustained, the areolar structures had become so infiltrated and disorganized, that they quickly told on an already enfeebled system. The case, however, is an example of what the surgeon has commonly to meet with. For the notes of it we are indebted to Mr. Burton Copp, house-surgeon to the hospital:—

S—, aged fifty-nine; porter. Had suffered from severe attacks of rheumatism and bunions; had not been accustomed to dram-drinking, but had lived very poorly, at times barely existing. He had travelled as gentleman's valet to Australia and India, after which he was employed for two years in an oil-shop, during which period he had frequent attacks of gout. On the 28th of July, he fell in with some comrades, who invited him on to a van. Whilst getting up, his foot slipped, and, in endeavoring to recover his

balance, his hands got entangled in the spokes of one of the wheels, and he was dragged some distance. He was placed in a cab, and brought to the above hospital.

On his admission, at half-past four o'clock p.m., he was perfectly sensible, but faint; the outer part of the right thigh presented a wound about four inches in length, extending two inches above and below the knee-joint; the soft parts were slightly injured, but the joint was in no way implicated; no synovia had escaped; and he was unable to pass urine. An enema was administered, and his urine drawn off; the parts were brought into apposition with sutures, and water-dressing applied.

July 30th.—The sutures were removed, and a large poultice applied, the urine being drawn off.

31st.—Pulse regular; tongue clean; bowels opened; is still unable to pass urine, which was drawn off.

August 1st.—At half-past ten a large red patch, exhibiting a tendency to spread, was noticed; the swelling rather tense and brawny; pulse 110; tongue slightly coated. The toes were warm; pulsation felt. Four ounces of brandy and five grains of carbonate of ammonia, with a drachm of the compound tincture and an ounce of the decoction of bark, were ordered. Warm fomentations and poultices were applied at half-past twelve. On removing the poultice to look at the part, the whole front of the leg had assumed a tallowy-white appearance, marbled with green veins. The back and inner side was of a livid-reddish black; the dorsum and sole of the foot retained their natural color, but had evidently lost pulsation and warmth, and had a perfectly emphysematous feel. The leg was enveloped in poultices and hot fomentations, and successive layers of carded wool were applied. Brandy was administered in successive doses of an ounce. Mr. Erichsen was sent for, who determined on an operation, as the gangrene was spreading fast, and implicating the thigh, the whole leg up to the knee being gangrenous. None of the parts above the knee had actually sloughed, but there was a broad band of redness and hardness extending up to the thigh. Slight œdema could also be traced. The front, outer side, and back of the thigh nearly to the ham, were quite healthy.—Half-past three p.m.: The patient being placed under chloroform, amputation of the thigh was performed at its outer and middle third, and a long flap was made from its anterior and outer part, where the structures were the most sound, and the short flap from the posterior part. Half an ounce of brandy, with extra strong beef-tea, were given every half hour, and brandy-and-egg mixture.—Quarter to twelve: The patient experienced a slight attack of chill, and perspired freely afterwards. The same plan of treatment persisted in.

2nd.—Two a.m.: He feels better, and converses cheerfully; urine drawn off. He had

expressed a strong wish for some bread-and-butter and a boiled egg, which were given him.—Seven A.M.: He is much better; countenance greatly improved; no despondency; tongue, though slightly brown and furred, is moist; skin of a pleasant warmth; pulse 100.—Twelve o'clock: The brandy and beef-tea have been continued uninterruptedly, and he has just had two boiled eggs with bread-and-butter.—Six P.M.: Patient much the same; he expressed a strong wish for a "mutton-chop," which he ate greedily; his countenance is cheerful; conversation sensible, and full of hope.—Twelve o'clock: No apparent change was observed in the patient up to this time, when he fancied himself out of bed, and expressed a wish to be undressed and placed in bed. He said that people were unkind to him, because they would not allow him to take the dressings off the stump; the stump itself emits a peculiar, strong odor, is swollen, dry, and slightly painful on pressure; the color about four inches round is of a dark-brown, almost black appearance. He complains of a burning, scalding pain over the region of the heart; the fingers and forearm slightly cold and clammy; pulse weak and intermitting; no hiccough.

3rd.—Three o'clock: Although the patient talks incoherently at times, he is able to distinguish persons, and call them by name, and freely takes the nourishment offered. The pulse is hardly perceptible; the gangrene has extended to the trunk (about centre of abdomen); the extremities are cold and clammy; countenance anxious; lips drawn down; the smell from stump being almost unbearable.—Half-past three: Patient died without a struggle.

*Appearance of the amputated part.*—Shortly after the operation the amputated part was examined. The muscles seemed free; but the cellular tissue beneath the skin and them was partly decomposed and partly in a state of infiltration. The deeper muscles appeared sound; the cellular tissue in the neighborhood of the wound was completely sloughy.

*Autopsy, six hours and a half after death.*—Heart rather large; pericardium adherent by very old adhesions; no disease of valves. Liver healthy. Kidneys small, weighing three ounces and two-thirds respectively, pale, cortical substance thicker in parts than natural, surface granular. Brain perfectly healthy. Joints of great toes contained deposits of urate of soda.

#### LONDON HOSPITAL.

*Malignant Cystic Disease of the Testicle, the cysts containing cancer cells, cholesteatoma, and bone; successful removal.*

(Under the care of Mr. CURLING)

Cystic disease of the testicle is known to be a rare affection, and when seen presents a remarkable appearance, a section of it showing a great number of cysts varying in size, and mostly fill-

ed with fluid. These were determined, by the researches of Mr. Curling, to be the result of changes in the ducts of the *rete testis*, and not in the seminal tubules, nor in the ducts of the epididymis, as was supposed by Sir Astley Cooper. There are two varieties of the disease clearly made out—a malignant and non-malignant, the former being considered by far the more rare. The treatment in each is the removal of the tumor; and as it is important to be enabled to give a correct opinion as to the prognosis, an examination by the microscope will determine the point. If nucleated cancer cells are discovered, then is the tumor malignant; but if tessellated epithelium alone is found in the cysts, the patient can, with some confidence, be assured of his permanent recovery, and immunity from all risks of a relapse. The malignant form as illustrated by the cases narrated in Mr. Curling's work, "On Diseases of the Testis," is certain to be followed by a return of the disease to some internal organ, and may destroy life within the period of two years.

The following case is an example of the malignant variety, and the description of the tumor, after its removal, is highly instructive; for besides cancerous deposit, some of the cysts containing cholesteatoma; some a viscid, bloody fluid, and one or two, bone. During its removal, an unsuspected hernial sac was opened, and some omentum protruded; this, however, did not interfere with the subsequent healing process, which went on well:—

J. B——, a carpet weaver, single, from Huddersfield, was admitted in May, 1859. He was a pale-looking, rather spare man, and he had a swelling of the right testicle, which had been growing for two years, and had commenced without any apparent cause. The tumor was oval, and of great size, a prolongation of it extending, in the course of the spermatic cord, as high as the inguinal canal. It had an indistinct fluctuating feel. The upper extremity of the prolongation was round and defined. He experienced a dragging sensation, and sometimes shooting pains, referred to the loins. There was no enlargement of the inguinal and lumbar glands that could be felt.

May 19th.—Castration was performed by Mr. Curling. It was necessary to lay open part of the inguinal canal, and in detaching the upper border of the tumor, a hernial sac was opened, and some omentum protruded. On dividing the cord, it was found remarkably thick, so as to lead to the supposition of its being infiltrated with morbid deposit, and it was very vascular, five or six vessels requiring to be tied. No vessels in the scrotum required ligatures. The omentum was returned, the wound closed by sutures, and a tolerably firm pressure was made with a compress at the groin. Before closing the wound, Mr. Curling passed his finger into the abdomen, and felt two small rounded swellings in the course of the spermatic cord, one being situated close to the external iliac artery. The patient



went on favorably after the operation. No peritonitis ensued. The wound healed gradually, and he returned home cured on the 28th of June.

On section and examination of the enlarged testicle, it was found to exhibit a number of cysts, of variable size, from one eighth of an inch to an inch and a quarter in diameter, containing some thick, viscid, bloody fluid: others cholesteatoma and cancerous deposit, and one or two, bone. The inner cystic tissue was fibrous and varied in density at different parts. In some parts the meshes of the interlacing fibres were filled with colloid, and there the tumor had a semi-transparent aspect. In others the meshes were filled with encephaloid matter, and there the growth had an opalescent, or faintly granular appearance. At a few points the growth was entirely fibrous. There was no trace of the tubuli, and the cancerous matter did not extend beyond the epididymis, the spermatic cord being free from cancerous infiltration. Two masses, encephaloid in character projected from the body of the growth into the tunica vaginalis.

#### ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.

*Cases of Gonorrhœal Ophthalmia, cured under Stimulant and supporting Treatment.*

(Under the care of Mr. HANCOCK.)

In placing upon record the following cases of gonorrhœal ophthalmia—a form of inflammation of the eye often ending in loss of sight—we would draw attention to the stimulating and supporting treatment which was adopted with success. If a pneumonia, or some other equally inflammatory disease, can be successfully combated by stimulants, we see no reason why the form of ophthalmia under consideration should not be similarly treated, with equally good results; for it is a form of disease which is marked by extreme debility, and sometimes prostration. We have had the opportunity of seeing these and some similar cases under Mr. Hancock's care, and have been most favorably impressed with the value of quinine in gonorrhœal ophthalmia. We are indebted for the notes of these two cases to Mr. Arthur E. Sansom, house-surgeon to the hospital.

Case 1.—Mary H—, aged thirteen, of tolerably healthy appearance, was admitted on the 7th of June, 1859, with gonorrhœal ophthalmia affecting the right eye. She first found the eye to be painful on the 2nd. She had gonorrhœa some weeks previously, and the discharge continues. The cornea is very opaque; the conjunctiva very much chemosed. There is distressing lachrymation, and the cheeks are excoriated by the tears. She was ordered two grains of the disulphate of quinine, and a quarter of a grain of powdered opium, every four hours; full diet, and a pint of beer twice daily;

the eye to be bathed frequently with fomentation of poppy-heads.

June 8th.—Slept well; condition the same.

9th.—She is restless, and perspires considerably; chemosis remains, and the cornea, towards its superior and internal margin, gives a suspicion of approaching sloughing; there is profuse discharge.

10th.—She shows signs of delirium; is very restless; complains bitterly of pain in the head. Omit the opium, continuing the quinine.

11th.—Slight improvement; she is more composed; headache is less; the eye presents a more favorable appearance; it is syringed with a weak solution of nitrate of silver (half a grain to the ounce). A purgative of castor oil and turpentine given.

14th.—Chemosis increased. There is still ground for fearing that the cornea will slough. To syringe the eye with the before-mentioned solution of nitrate of silver every morning.

20th.—The swelling prevents an accurate inspection of the globe, but the inflammation has decreased, and there is much less pain; it is feared that the cornea has sloughed; cold-water pads are kept to the eye.

22nd.—Inflammation much less.

23rd.—Does not complain of pain. Mixture of extract of belladonna and mercurial ointment, equal parts, smeared above the eyebrow.

25th.—Improving; the cornea is cloudy, but all tendency to sloughing has passed away.

27th.—Much improved; conjunctival congestion much less; she begins to distinguish objects, and to assign to them their proper colors.

30th.—All the good signs have increased; vision is daily increasing.

July 6th.—Continued improvement up to the present time; congestion much less, but there is a haziness of the cornea; pain and lachrymation have ceased; the gonorrhœal discharge continues and a mixture containing copaiva is ordered.

8th.—Scarcely any congestion of the conjunctiva; tolerance of light much increased. The sight, she says, is as good as before the occurrence of the disease.

18th.—The only evidence of disease is mottling of the circumferential part of the cornea; sight is perfect; opium wine is dropped into the eye daily.

28th.—Discharged, cured; the only remaining corneal opacity being below the axis of vision.

Case 2.—John R—, aged twenty-one, a tall, healthy-looking lawyer's clerk, applied as an out-patient on the 17th of August, 1859. He complained of pain, great heat, and watering of the left eye. The lids were seen to be much swollen, and of a purplish color. On raising the

upper lid, purulent fluid escaped. The conjunctiva was excessively chemosed; the cornea pretty clear.

His previous history was as follows:—He had had gonorrhœa four months before the outbreak of this attack, but more lately no symptom of it. A fellow-clerk with whom he lived, however, had, at the time this disease began, a gonorrhœa; and it is to having used his companion's towel that he attributes the present inflammation. The eye affection commenced on the 5th of August with watering and pain; it continued increasing in severity until the present application.

He was immediately admitted into the hospital, and ordered two grains of disulphate of quinine three times a day; full diet, with eggs, a beef-steak or meat for supper, and two pints of porter daily; to bathe the eye frequently with decoction of poppy-heads.

Aug. 18th.—Does not complain of much pain in the eye, and sleeps well at night.

20th.—Expresses himself as better. Tired of hospital restraint, he begged to be allowed to become an out-patient. The same treatment was enjoined and continued.

30th.—Chemosis had quite disappeared; the cornea looked slightly soft. A solution of nitrate of silver (one grain to the ounce) was dropped into the eye.

Sept. 2nd.—Still much better; no pain; lachrymation has ceased; says he can see as well with the affected as with the sound eye, except that he is unable to keep it long fixed upon an object; the conjunctival congestion is fast disappearing; there remains a very slight softened appearance of the margin of the cornea. He still remains under treatment, but the only notable sign the eye presents is a slight congestion of the conjunctiva.

#### WESTMINSTER HOSPITAL.

*Insensibility from Attempted Drowning; recovery after two hours by the Marshall Hall Method, with other Treatment.*

(Under the care of Dr. FINCHAM.)

Although the period of submersion in the following case could not be ascertained (it was probably under four minutes), yet it was long enough to produce complete insensibility and asphyxia, which continued for two hours after admission. The pulse at the wrists was imperceptible, but the heart could be heard beating very feebly on listening at the walls of the chest; and so long as the circulation continues through the great central organ, it is an encouragement to persevere in efforts to restore life, even in apparently most hopeless cases. When the heart's action ceases entirely, the general conviction is, that the success of exertions to restore it is very doubtful; and it will be recollected that the officers of the Royal Humane Society, whose experience in cases of

drowning is considerable, state that a recovery is rare when individuals have been more than four or five minutes under water. In the subjoined case, the Marshall Hall method, assiduously applied, conjoined with other measures, proved successful in restoring animation, and a recovery ensued.

Mary T—, aged twenty-two, a robust woman, in service as a cook, was brought into Westminster Hospital, in August last, having attempted to destroy herself by drowning in the Thames, near Westminster-bridge. She was quite insensible, her pupils dilated, her extremities cold, face and lips rather livid, and the pulse imperceptible at the wrist. The heart could be heard beating very feebly beneath the mamma. She was at once stripped of her wet clothes, dried, and wrapped in blankets, her head and shoulders being raised. Dr. Marshall Hall's method was then adopted, diligent friction from below upwards being at the same time employed. Snuff and other irritants were applied to the nostrils, a strong mustard poultice placed over the heart, and brandy, which she was induced to swallow only with considerable difficulty, was given freely from time to time. This plan, which was quite successful, was persevered in for nearly two hours, in the course of which she twice, by convulsive twitchings of the facial muscles, &c., gave signs of returning animation, but on both occasions relapsed into a state of profound stupor. After two hours, however, consciousness and respiration were fairly established, and the patient was removed into St. Margaret ward, where she is rapidly improving under the care of Dr. Fincham.

It may be mentioned that a sulphate of zinc emetic was administered, and relieved her, after her removal to bed, of a quantity of undigested food and Thames water.

#### ST. THOMAS'S HOSPITAL.

*Rupture of the Popliteal Artery and vein; amputation, with a fatal result in two hours.*

(Under the care of Mr. South.)

When two large vessels are torn across, such as the popliteal artery and vein, in the manner described in the subjoined case, it is naturally expected that a large amount of hæmorrhage must ensue. This, however, did not occur in the present instance, for the amount of extravasated blood poured out was of small extent, and mostly superficial. The cause of this was the laceration and division of the vessels in a manner similar to that which takes place when a limb is torn from the body by machinery, the retraction of the two inner coats of the vessels within their cellular sheath being sufficient to prevent bleeding. The dissection of the limb proved this in the present case, for a clot of blood occupied each end of the torn artery, that in the proximal end being as much as an inch and a quarter in length. The effusion of serum

was due to the stoppage of the main venous circulation through the limb; and it is remarkable, considering the nature of the injury, that no other lesion should have occurred than that in the bloodvessels. For the notes of the case we are indebted to Mr. W. Allingham, surgical registrar to the hospital.

J. B—, aged thirty, a locksmith, was admitted into George's ward, under the care of Mr. South, between twelve and one o'clock A. M. on the 14th of August, having had the wheels of a heavy van pass over the ham of his left leg. There was no fracture. The man, when admitted, was exceedingly drunk, and was said to have been drinking for some days.

During the night he was very violent, and the house-surgeon was sent for to see him early in the morning. He found that the swelling had increased, that the leg was cold, and that there was no pulsation in the anterior or posterior tibial arteries. Rupture of the popliteal artery was diagnosed, and Mr. South was sent for, who amputated the leg almost immediately. The man was very low, although he was well plied with stimuli; and after the operation he complained of severe pain in the precordial region, and died in two hours.

On examining the amputated limb, the popliteal artery and vein were found to be torn through in the middle of the popliteal space. Blood was extravasated superficially, but not in large quantities, in the sides of the patella, particularly on the outside, as well as into the ham: there was no extravasation in either the anterior or posterior tibial regions. A clot of blood was found in each end of the torn artery, the clot in the proximal extremity being an inch and a quarter long and particularly firm. There was a very considerable effusion of serum into the leg and thigh. No muscle was torn. The body was extremely muscular, and all the viscera appeared to be healthy.

#### NORFOLK AND NORWICH HOSPITAL.

*Soft Medullary Cancer of the œsophagus, which Ulcerated into the Pericardial Cavity, producing Pericarditis and Death.*

(Under the care of Mr. G. W. W. FIRTH.)

*Reported by Mr. CHARLES WILLIAMS, House Surgeon.*

Maria S—, aged thirty-six, single, a servant, admitted into the above hospital, on the 9th of October, 1858, with symptoms of stricture of the œsophagus. The patient has a florid complexion, is of a spare habit of body, evidently emaciated from some exhausting disease, is greatly debilitated, and wears much anxiety in her countenance. Her present illness commenced about four months ago. Previous to that period, she had always enjoyed remarkably good health. It began with pain at the pit of the stomach, which was very severe, and, as she expresses it, of a "scratching, scraping character." Blisters and other external

remedies were applied by her medical attendant, and in four weeks it left her, and now her throat, which had felt sore previously, became worse; she experienced a difficulty of swallowing solid food; this difficulty has been gradually increasing to the present time. She has never drunk any strong acid, nor taken anything likely to injure her throat, nor has she ever had anything stick in her throat. She cannot swallow thick fluid, such as arrowroot; she says it passes to a certain spot, remains there a few seconds, and is then rejected, and she retches for a long time after; but thin fluid, in small quantities, she can manage, though a long time getting it down. Catamenia are, and have been, perfectly regular; bowels costive; tongue clean; sleeps tolerably well; feels most acutely the sensation of hunger.

On examining her chest, there is slight dullness over the right side, with diminished respiration; on the left side, respiration is harsh and puerile. Heart-sounds are normal, no extended area of dullness in the cardiac region; no bruit in any part of the chest, either anteriorly or posteriorly.

Mr. Firth ordered strong beef-tea enemata to be thrown into the rectum three or four times a day, and directed œsophagus bougies to be passed through the stricture every second day—to commence with No. 1, and to use larger and larger ones until the full size should be attained. This was accomplished in about a month after such treatment was begun. A tolerably free œsophageal passage was now established, and she was able to swallow fish, mutton chop cut finely, potted beef, and eggs, which, with porter and port wine, formed her diet. The beef-tea enemata were of course discontinued. This improvement, however, lasted for three weeks only. Up to this time, the patient's system had not rallied as it ought to have done, considering the large amount of solid nourishment she had been taking daily. On this account, Mr. Firth came to the conclusion that the patient was not suffering from an ordinary stricture of the œsophagus, but from malignant disease of that canal, and the sequel of the case justified his diagnosis. She now began to retrograde, and suffered acute pain when the bougies were passed, and could not endure to have them passed oftener than once a week. She felt so nauseated and ill after swallowing food, and the pain of deglutition was so great, that she refused to swallow any more, and beef-tea enemata were again had recourse to. In spite of all treatment, she rapidly lost ground, and entreated to be allowed to go home. This was granted, and she was discharged on the 18th of December.

Before she left the hospital, Dr. Eade examined her chest, and gave the following report:—"Is considerably emaciated, and complains of constant aching pain between the scapulæ; the pulses at the wrist are equal; great loathing of any food; there is neither tenderness nor hard-

ness of the stomach. On percussion there is a little dullness over the upper part of the left side of the chest in front, but no difference in the percussion note behind. Very little air can be heard to enter the root of the right lung, and the whole of this lung posteriorly is nearly silent. The respiration is puerile on the left side behind, but not so markedly as in front." After leaving the hospital, she got worse gradually, and was always complaining of a severe "gnawing" pain between the shoulders. Could not eat anything; was nourished with beef-tea enemata, and at last died, twenty-four days after leaving the hospital, and exactly seven months from the commencement of the complaint.

*Autopsy.*—Body excessively emaciated. Chest and upper part of abdomen only examined. Lungs healthy; crepitant; no tubercles in them; nearly the whole surface of the right lung adherent to the pleura; left but slightly. Pericardial cavity contained a large quantity of turbid serum. Heart small, and covered with lymph, which could be easily peeled off its surface; this was rough to the finger, and had a peculiar soddened appearance; no endocarditis; all the valves and the aorta healthy. Stomach large; cardiac and pyloric orifices healthy. Liver healthy; gall-bladder distended with bile, and black in color; spleen small, but healthy. The trachea and œsophagus were divided at the root of the neck, carefully dissected downwards, and removed from the body with the stomach. On opening the œsophagus its whole length, a mass of disease presented itself, occupying the calibre of the tube, forming an annular growth, commencing opposite the bifurcation of the trachea, and terminating four inches and a half below; posteriorly, where it was thickest, it was three-quarters of an inch in depth; had a shining milky color; rather soft; and there was a narrow irregular passage through it. At about the middle, on the left side, there existed a round ulcerated opening large enough to admit a No. 12 catheter, which opened into the upper part of the pericardial cavity. The mucous membrane of the œsophagus appeared to be perfectly healthy, both above and below this diseased mass, which terminated fully three inches from the cardiac orifice of the stomach. The bronchi were flattened, especially the right one, and to the descending aorta the disease was firmly adherent its whole length, but had not ulcerated into it. Its minute structure presented cells of various forms and sizes. Some were large, and contained four or five nuclei.

*Remarks.*—Cancer rarely attacks the œsophagus, so rarely indeed, that of 8289 deaths from this disease in Paris, 13 only are ascribed in the registers to this tube,\* and in this country so few cases have been recorded, that authors on cancer can afford us but little information. Rokitsansky gives a most meagre account of the disease when situated in this part of the body; but all are unanimously of opinion that it occurs

most frequently at the upper part of the canal, at its junction with the pharynx, and very rarely at its middle; but when it does appear at this portion of the alimentary tube, it will probably be found to be of the encephaloid variety. One is led to infer this in consequence of the descriptions of such few cases as are recorded, which descriptions closely correspond with the appearances and signs of soft cancer; but the cases are too few to lay down any precise rule on the subject. On the other hand, when cancer presents itself at the junction of the œsophagus with the pharynx, it almost, if not always, assumes the form of scirrhus, and we get the annular stricture, which is not unfrequently met with; but all strictures at this point are not cancerous, although improperly considered so. Many are the effects of chronic inflammation leading to hypertrophy, induration, and gradual constriction of the canal. The cardiac orifice of the stomach is not an unusual site for cancer, which invades it in a scirrhus form.

There is a singular circumstance connected with cancer of the œsophagus,—namely, that it generally occurs in an isolated form; *i. e.*, without the coexistence of the disease in other organs. In the case under consideration, all the organs except the uterus and the vagina were examined, and found to be free from carcinomatous disease.

Rokitansky observes that ulceration frequently causes destruction of the neighboring tissues, by which means communications are established with the trachea, bronchi, and the arterial trunks in the vicinity, more especially the aorta and right pulmonary artery;\* but neither does he, nor any other writer that I know of, give an instance where an opening has been made by ulceration into the pericardial cavity, producing pericarditis and death. That this opening was not a traumatic one is proved by the fact that no symptoms of inflammation showed themselves after the œsophagus bougie was passed for the last time, which was accomplished nine days before she left the hospital, and she lived twenty-three days after her dismissal, making in all thirty-two days without exhibiting any symptoms of such a lesion: indeed, the presence of a foreign body in the pericardial cavity would, most probably, have caused death at once.

## Clinical Records.

### INSTANCES OF LONDON AGUE.

1. H. W——, aged thirty-one, farrier; resident in Paddington; not out of London for years; came from Essex; no ague where he lived. Was admitted into St. Mary's Hospital, under Dr. Hanfield Jones's care, on the 9th September, 1858. He was convalescent from tertian ague, but pale and weak. Took citrate of

\* Walshe on Cancer, page 271.

\* Sydenham Society's Trans., vol. II. p. 11.

iron and quinine with liquor of the arsenite of potass, with much benefit.

2. S. P——, aged twenty, female; resident at Notting-hill now, before that was in Paddington, to which place she came from Warwickshire, her native county. Ill six weeks with tertian ague.

3. S. W——, male, aged forty-eight; resident in London six or seven years. Had ague three years ago, which subsided spontaneously; was then in London. Has been living during the last six months at Shepherd's-bush. Ill a month; had quotidian ague all last week, which he got, he thinks, while working at a house, laying floors.

4. M. K——, female, aged fifty-one; has resided for eighteen years near Portland-market, in Marylebone; never went into Kent. Got tertian ague in the beginning of May, but never had it before. Has just been discharged from Middlesex Hospital, where she was under Dr. Stewart's care, who kindly sent her to Dr. Jones.

5. J. T. S——, aged sixteen, male; resident in Paddington three months; at Wisbeach in Cambridgeshire before, where ague is prevalent, but never had it till he came to London. Ill now one week with tertian ague.

6. M. A. G——, aged twenty-six, female; servant in Gloucester-place, Paddington. Ill six weeks with ague, at first tertian, last fortnight quotidian. Never had it before. Came from Southolt, in Suffolk, where there is no ague endemic as far as she knows. She resided there three years, and in London for three years previously. Before this she lived at Yarmouth, in Norfolk, where she visited a friend about five weeks last Christmas; in the vicinity of Yarmouth ague is very prevalent, but no one had it in the house or immediate vicinity where she was staying.

The first four of these cases seem certainly to have originated either in London or in its outskirts. The predisposition in the fifth case was in all probability acquired at Wisbeach, but London influences developed the disease, which otherwise might have remained in abeyance for an indefinite time. In the sixth case Dr. Jones thinks the disorder must have originated in London, as the patient had resided previously at Yarmouth without suffering from it, and her visit having been in the winter time makes it unlikely that any ague miasm was then active.

The practical interest of these observations lies in the view (which Dr. Jones is much inclined to believe is correct) that ague, when occurring in localities which one might expect would be free, and which usually are so, serves as an exponent of the dominant type of disease. It is itself eminently a neurosis, and when it prevails such disorders will surely be in the ascendant. That such is the case now is a matter of general experience.

#### DIVISION OF THE TENDON OF THE RECTUS FEMORIS.

The faulty position of the limb in the following case, arising from an old fracture of the femur, rendered it completely useless for the ordinary means of progression. There was apparent ankylosis depending upon contraction of the quadriceps extensor muscle. This was successfully remedied by the important operation of subcutaneous division of the tendon of the rectus femoris by Mr. Brodhurst. It is not often that this special tendon has been divided, and the case is one of much interest from its rarity.

W. C——, aged thirty-eight, a powerful sailor, in July, 1857, fell from the rigging of a man-of-war on to the deck, a height of twenty feet, fracturing the femur in the upper third. Union took place, but with considerable irregularity, so much so that the bone might be seen projecting very considerably on the outer side of the limb. He was admitted a patient at the Orthopædic Hospital in May, 1859, under Mr. Brodhurst, with apparently partial ankylosis of the knee-joint. There existed very slight motion at the knee, which was stopped suddenly, and as though by a projection of bone. Chloroform was administered, and it then became evident that the contracted condition of the quadriceps extensor was the cause of immobility. It was therefore determined to divide the tendon of the rectus femoris. The division was effected from an inch and a half to two inches above the patella, so as to avoid the bursa. Gradual extension was employed after the external wound had healed, and indeed it is still being carried on. At present the leg is flexed beyond a right angle, and the motion of the knee-joint is so far free. There is no doubt that the motion of the joint will be perfectly restored.

#### CASES OF ADDISON'S DISEASE.

Two typical examples of Addison's disease have within a few days, terminated at Guy's Hospital, and have verified the correctness of the views of the able physician whose name is now associated with this malady. Their history is brief, but clear:—

Martha M'C——, aged twenty-six years, was admitted, under Dr. Pavy's care, on the 27th of July, with well-marked melasma, extreme prostration, and weakness, which were diagnosed as resulting from supra-renal disease, as described by Dr. Addison. She had been ill only eight months, and the principal symptom complained of was general and slowly increasing weakness. She died four days after admission (31st), vomiting having commenced forty-eight hours before death. Every organ in the body was found to be sound, excepting the supra-renal capsules, which were affected with the deposit of lardaceous matter now known as characteristic of the disease. There were a few slight but old pleuritic adhesions, but not the slightest trace of lung mischief.

The second instance was in a patient about sixteen years of age, who was in the hospital three or four days under Dr. Addison's care, having been previously a patient at the Surrey Dispensary. There was universal melasma, which was, equally with the first case, diagnosed to proceed from supra-renal disease. The symptoms of weakness and debility were so great on admission that she could not stand. Death ensued on the 21st, and at the autopsy, the only organs found affected were the supra-renal capsules, their pathological condition proving to be the same as that of those in the first patient.

Here, then, we have two well marked and clear illustrations of a malady which, clinically, promises to be one of the most interesting in the history of medicine to the scientific physician. In the diagnosis of Addison's disease, those who look solely to finding the melasma, or bronzing of the skin, or sometimes doomed to disappointment; for increased experience proves, as stated by Dr. Wilks in his "Pathological Anatomy," that only in chronic cases is the skin discolored—that is in those in whom the supra-renal capsules are alone affected.

Two equally undoubted instances of the same disease have very recently been placed upon record by Mr. Mackenzie Bacon, of Norwich (lately a pupil at Guy's Hospital), and Dr. Glover; the latter in the *Edinburgh Monthly Journal of Medicine*.

#### SYPHILITIC PNEUMONIA.

We well remember hearing Dr. Stokes describe a form of pneumonia common amongst drunkards, and which he called "drunkards' pneumonia." There is also an inflammatory consolidation of the lung which owes its origin to the poison of syphilis, and hence is well worthy of the appellation of "syphilitic pneumonia." At the Royal Free Hospital, on the 22nd ult., we were shown a well-marked case of the latter, under Dr. O'Connor's care; the patient, who was admitted about the middle of July, being thirty-five years of age. His syphilitic history was clear, and was associated with a papular eruption, some of the copper-colored spots being visible up to the present time about the back and shoulders. On his admission, the physical signs of pneumonia were present, the dullness over both lungs was very considerable and extensive, and the vocal resonance was strong and distinct all over each. The dyspnoea, therefore, was urgent, but the breathing was not so embarrassed as in ordinary pneumonia. There was also frequent cough, without expectoration, associated with much wasting, and a small and quick pulse (100). His treatment consisted of blisterings all over the chest, five grain doses of iodide of potassium from the 23rd to the 28th of July, and four grains of mercury-with-chalk and conium thrice a day. On the 2nd of August, a grain of iodide of mercury, with four grains of extract of conium, three times a day, were ordered, and continued till the mouth be-

came sore; and a quarter of a grain of muriate of morphia every night. The gums are tender now; he is taking iodide of potassium with his cough mixture, and the disease is yielding. One of his testicles was much enlarged, of pyriform shape, and indurated, principally depending upon enlargement of the epididymis. His voice is hoarse and husky.

This is one example in some six or seven which have been admitted into this hospital with the symptoms of inflammatory chest disease, clearly the result of syphilis. A case in many respects similar to it, is under Dr. Willshire's care at the Charing-cross Hospital, differing only to this extent, that the bronchial tubes, trachea, and faucial mucous membrane have been affected, instead of the lung tissue. The patient is a middle-aged woman, whose history is obscure, but the ulcerations and other peculiarities point to syphilis as the cause of the disease. The secretion from the tubes is copious, and occasionally hæmorrhagic. She has much improved under the use of the syrup of the iodide of iron.

We have seen cases in the Royal Free Hospital, under Dr. O'Connor's care, wherein the evidences of phthisis were present, with an absence of the physical signs of the disease, the symptoms depending upon constitutional syphilis, and readily yielding to the exhibition of mercury.

#### MAMMARY CYST.

The diagnosis of a tumor in the breast is sometimes difficult to make out, especially in connexion with malignancy, which is after all the essential feature to determine. In the majority of instances, a circumscribed and distinct mass, which is of an indolent and chronic character, accompanied by a little amount of pain, turns out to be scirrhus. These characters, however, may still be present, yet the nature of the tumor may prove to be quite different, as we saw exemplified at St. George's Hospital on the 12th ultimo. An elderly and healthy-looking woman was admitted, with a growth in her right breast of some years' duration, situated in the upper part of the gland, rather towards the right margin. There was some amount of induration about it, and, on a consultation being held, it appeared doubtful what the real nature of the disease was. Mr. Cutler, being under the impression that it was not malignant, made an exploratory incision across the tumor, and cut into a cyst as large as a medium-sized orange. Finding it to be a growth of this kind, he dissected out its walls, which from irritation had produced some amount of induration in the surrounding tissues. The nipple was not interfered with, and the patient is likely to do well.

#### ABDOMINAL ALCHESS.

In the diagnosis of collections of matter developed within or rather between the l

composing the walls of the abdomen, much importance is attached to the circumstance whether they were preceded by either a wound or a contusion. They have been usually observed to follow injuries; but nevertheless they do sometimes occur spontaneously, without any very definite or clearly recognizable cause.

A patient, in whom this would seem to have been the case, was lately under the care of Dr. Wilks at Guy's Hospital. He is a countryman, aged fifty-two, from Ashby-de-la-Zouch, and was admitted on the 30th June, with two fistulous openings, an inch apart, situated on the abdominal walls above the umbilicus. In the history of his case, it appears that he was unwell for some weeks, and soon afterwards experienced pain in his right side. He then gave up his employment as a leather-finisher (in which there is no pressing against the stomach), when a swelling commenced in the epigastrium. In the course of five weeks this was so large that it was punctured, and at the same time it spontaneously opened close by, and about two quarts of thin, greenish, very foetid matter were evacuated. This was in December last, and the swelling was preceded by two shivering fits. There is no evidence to show that the swelling was a suppurating hydatid of the liver, or an effusion from a circumscribed local peritonitis, and no pus has at any time been observed in his stools. A probe passes in various directions for a short distance, and there is a little tenderness about the region of the old abscess. Thus much being clear, that it was an intermural abdominal abscess, the question of treatment arose; and as it now seemed to be more a surgical than a medical case, Mr. Hilton's opinion was sought for. He resolved to perform an operation, to lay open the fistulous track; but the man was too timid to submit to it, and left the hospital on the 1st August.

#### FAILURE OF IVORY PEGS AND OTHER TREATMENT IN UNUNITED FRACTURE.

Our readers will recollect a case which was briefly noticed in our "Clinical Records," (*THE LANCET*, vol. ii., 1858, p. 303,) of a seaman who was admitted into King's College Hospital for an ununited fracture of the thigh, which was treated by scraping the ends of the bones with a tenotomy knife, so as to produce such an amount of irritation as would cause callus to be thrown out to effect union—a plan strongly recommended by Professor Miller, of Edinburgh. This, with several other operations to effect the same end, failed. Removal of the end of the upper fragment of the broken bone and denudation of the lower with a knife were resorted to on one occasion, and on another the use of the ivory pegs, which sometimes prove serviceable: but these all failed. Possibly the re-fracture of the bone, after union in a faulty position on board ship, may have had a good deal to do with this want of success. As a last resource, therefore, amputation was performed

on the 18th of June, and about three inches of the upper fragment were removed. Not a trace of callus was observed, and there was no attempt even at union. One of the ivory pegs still remained, and was found to be much worm-eaten in that part of it only which had been in contact with the bone. The patient has gone on well since the amputation.

#### INJURIES FROM THE FALL OF A BRICK WALL.

Broken limbs, and sometimes dangerous wounds, if not the loss of life, are the usual results of the fall of walls or embankments on the workmen. A fracture of the thigh in one laborer, and a fracture of the right tibia in another, ensued from the giving way of a brick wall, which fell upon them on the 18th ult. They were at once taken to the Charing-cross Hospital, and placed under the care of Mr. Canton, who had the limbs set in the usual manner; and when we last saw the patients they were doing very well. The second patient, aged thirty-four, with a fracture of the right tibia, sustained another injury in his opposite limb. A piece of brick wounded the soft parts at the inner and lower third of the thigh, and penetrated right down to the bone, laying bare the sheath of the femoral vessels. The wound, having been well cleansed and the edges brought together, has readily healed.

#### SILVER WIRES IN HYDROCELE.

We have previously referred to the subject of the treatment of hydrocele by the passage of wires through the sac, which plan of radical cure has proved successful in several cases under Mr. Pollock's care, at St. George's Hospital. On the 12th ult., he tapped a very large hydrocele of the right side in an elderly man, and withdrew about thirty ounces of fluid, containing a large proportion of cholesterine. A needle and wire were then passed through the canula and out of the sac. The canula being withdrawn, the wire was then tied, and thus formed a seton. A second case of hydrocele of the right side was likewise tapped, six ounces of fluid evacuated, and the same process adopted of introducing a wire seton.

These two made the fourth and fifth cases thus treated, and with success. The first instance was an example of encysted hydrocele of the cord, five months ago, the patient being in the hospital a week. No irritation was caused by the wire, but it produced an amount of consolidation of the parts sufficient to obliterate the cyst. The second and third cases were those of ordinary hydrocele. In these, however, there was not the same power of bearing the wire, and it had to be removed in forty-eight hours; in one it nearly produced suppuration; but at the same time the sac in each was obliterated.

Mr. Pollock considers the advantage of using the wire seton to be, that the patient suffers much less pain than when the sac is injected



with iodine; in other respects, the results are about the same.

#### FIBROUS TUMOR OF THE UTERUS.

The écraseur was employed on the 19th ult., at St. Bartholomew's Hospital, by Mr. Coote, for the purpose of removing a fibrous growth at the posterior part of the neck of the uterus of a woman forty-two years of age. It had been growing for between two and three years, and had recently become ulcerated on the surface, with a discharge of a horribly foetid character. We learn that she is doing very well, and the wound is fast healing up.

#### RAPIDLY-RECURRING CANCER OF THE BREAST.

The rapidity with which carcinoma returns after removal we saw illustrated on the 17th ult., in an elderly woman under Mr. Lane's care, at St. Mary's Hospital. Three months previously she had a tumor, of a malignant character and of the size of a fist, removed from the left breast, the glands in the axilla being at that time enlarged. The disease recurred within three months, near its old site, and presented a distinct tubercle outwardly, which formed the surface of a growth as large as a walnut. This was extirpated on the present occasion, and the wound has again healed up, but a recurrence must still be anticipated. The enlarged glands in the axilla have remained stationary, and are quite movable.

Although the recurrence has been so rapid in the case just mentioned, Mr. Lane stated that sometimes a patient may remain for many years without a reappearance of the disease; and referred to a woman under Mr. Ure's care who had been free from it for ten years after removal; and to another case in his own practice wherein a lady had enjoyed twelve years' immunity from the malady.

#### RUPTURE OF THE MUSCULAR FIBRES OF THE BICEPS HUMERI.

A very curious phenomenon is the subcutaneous rupture of muscles and tendons, not produced by external violence, but by the contraction of the particular muscle to which the tendon belongs. The tendons are more commonly ruptured than the muscles; thus Sédillot found the former torn in 13 out of 21 cases, whilst in the remaining 8, the muscle was torn across. A countryman sixty-five years of age was admitted on the 18th of July into University College Hospital, with a rupture of the fibres of the right biceps humeri muscle, which took place five days before, when endeavoring to lift a calf on to a cart. The part of the muscle ruptured is that in connexion with the long head of the biceps, and forms a prominent and hard tumor at the lower part of the arm. But immediately above the swelling is a great hollow or pit, and at its inner side the fibres of the other part of the muscle, arising from its short head, are felt entire. The force producing rupture, therefore,

was exerted principally through the long head of the muscle. At the moment of the rupture, the patient felt a sudden shock, as if he had received a blow. His arm has remained comparatively powerless ever since, although he can still flex it; some pain is present in the shoulder, arising, doubtless, from the tendon of the long head. The physical strength of the patient would seem to be perfect, but he has the aspect of fatty disintegration of tissue, although by no means corpulent.

#### EPITHELIAL CANCER OF THE LIPS.

Isolated examples of this form of cancer of the lip are occasionally presented to the notice of the pupils at the different general hospitals in London, and, when the disease has not extended too far, it is removed by operation. On the occasion of a single visit to the Cancer Hospital, we observed the following cases:—

A man, sixty-eight years of age, had the left side of his lower lip affected for a year with a distinct epithelial cancerous ulceration, slowly enlarging. It had now almost entirely healed by the application three times a day, of equal parts of almond oil and solution of diacetate of lead (two drachms of each). This has a soothing and drying-up effect, and absorbs the surrounding induration.

Another man, sixty-one years of age, had been the subject of cancer of the middle of the lower lip for fourteen years. It had been removed ten years ago, at St. George's Hospital, but recurred some time afterwards. From being very large it had diminished to the size of a shilling, and was drying up or scabbing over by the simple application of distilled vinegar and Goulard's lotion.

A third example was that of a man, fifty-eight years of age, with the same disease affecting the left side of the lower lip for four years. He had never been operated upon, and was being treated with apparent advantage by the local application of spirits of turpentine three times a day.

A man, aged forty-five, had his lip and submaxillary glands affected. The diseased part of the lip was excised by Mr. Stanley, at St. Bartholomew's Hospital, about eighteen months before, the whole duration of his disease having been now three years. The lip remained well after the operation, but the glands in the submaxillary space of the same side of the neck began to enlarge and suppurate shortly afterwards. This is not a favorable case to treat, from the deep extension of the disease; but, under the use of an embrocation of lead, with tonics, the man was greatly improving.

A Chelsea pensioner, aged seventy-one, had a cancer removed from the right side of his lower lip two years ago, by Dr. Marsden, at the Cancer Hospital, Brompton. The disease returned but has dwindled to a mere scale or superficial scab by the use of the soothing lead lotion.

In these five cases, which we had the oppor

tunity of thus seeing together, there was an absence of the offensive secretion usually observed. The sores had a healthy appearance, and the patients felt that they were getting better. Without exception all had been old smokers, and the disease was evidently traceable to the unglazed stem of a tobacco pipe. In none did it appear to be specially inherited.

On the 19th July, two cases of cancer of the lower lip were submitted to operation at Guy's Hospital. The first presented the usual characters of the epithelial form of the disease, occupying the right half of the lip, involving the mucous membrane. It was removed by Mr. Hilton by a V incision, and the edges of the wound were brought together by needles. The second was a case of greater interest, in a middle-aged man, in whom there was no breach in the continuity of the mucous membrane, but a distinct tumor occupied the middle of the lower lip, projecting forwards. It was excised, in a manner similar to the previous case, by Mr. Birkett. On making a section of the tumor, it was found to be a distinct nodule of true carcinoma, of the size of a marble, and with none of the characteristics of epithelioma about it. Both of these patients were old smokers, but it was only in the first that the disease could clearly be traced to the effects of the stem of the clay pipe. Union by first intention ensued in each case.

#### THE NUMBER OF CHILDREN A WOMAN CAN BEAR.

The question of how many children a healthy woman can bear, during the child-bearing period of her existence, is one of some interest. If a couple live harmoniously together during a long life, and marriage has taken place very early, it is quite possible that as many as 24 children may have been born to the state, at intervals reasonably short, and without their coming as twins or triplets. Amongst the poorer classes this regularity is not met with, although even amongst them a pretty large number of children are born. On looking over the Register of the St. Pancras Royal Dispensary since the year 1853, six instances occur in which over 16 children were born: thus, two patients, aged 42 and 46 years respectively, were each confined of their 17th child; one, aged 39, of her 18th; whilst three, aged respectively 39, 40, and 50, were confined of their 19th. The last patient, 50 years of age, besides her 19 children, had 4 miscarriages. In most of the cases the births were single, although occasionally twins were born. The greatest age was 50. Dr. Gibb states that, on a careful examination of the Register for many years back, the age of fifty is the highest at which any patient was admitted, and as the same patient did not present herself again, it is probable she ceased to bear children.

If the cessation of the catamenia determines the time at which gestation ceases, then it must occur in some instances as late as 55 or even 60 years; for M. Brierre de Boismont, who deter-

mined the critical period of life in 181 females, found that it occurred in 21 between 51 and 55 years and in 5 between 55 and 60 years.

In considering the number of children a woman can bear, we of course here exclude those cases of multiple births, wherein from 2 to 6 children are born at one time, and which thus will swell the number of children brought into the world by one woman to as many as from 25 to 69.

#### CONGENITAL PHYMOSIS IN A MAN AGED THIRTY-FIVE.

A patient of the above age, of healthy and ruddy aspect, submitted himself to Mr. Fergusson's notice, at King's College Hospital, with complete phymosis, there being an extremely small orifice through the end of the foreskin to permit the urine to pass. From his history it appears that he had a congenital phymosis, with a moderate-sized orifice; six years ago, he contracted syphilis, and the treatment of a chancre by the application of nitrate of silver caused the contraction of the opening to the smallest degree. On the 13th ult., the anterior part of the foreskin was simply slit up, which at once relieved the glans, the edges being kept together by sutures. No other operation was admissible, as there was not a redundancy of skin, but it completely answered the desired purpose.

One of the risks to which an adult is liable who has had phymosis for years is the occurrence of epithelioma. It is a remarkable fact, that in the majority of instances of this form of cancer of the prepuce, the patient has been the subject of an unrelieved congenital phymosis.

#### EFFUSION INTO THE JOINTS AND SHEATHS OF TENDONS FROM RHEUMATISM.

We were shown a case of articular rheumatism under the care of Dr. Wilks, at Guy's Hospital, in a girl nineteen years of age, in whose joints there is a moderate amount of effusion of fluid, that in the wrist extending into the sheaths of the neighboring tendons. The other articulations involved are the shoulders, ankles, and knees. Her illness has been of five months' duration, and this is her first attack of rheumatism, which does not appear to have been at any time very acute in its character. Her general health previous to her present attack seems to have been very good. Since her admission, she has been taking amongst other medicines, two fluid ounces of lemon juice three times a day, and, so far as we could see, with benefit. The features of interest in her case are—the effusion of fluid into the joint without any acute symptoms or much suffering and the extension of it in the wrist only to the tendinous investments.

In the medical wards we observed a number of cases in which the more severe and dangerous symptoms of heart disease were present. In one instance, under Dr. Pavy's care, a relapse had ensued, and the pleuro-pericardial inflamma-

tion was very extensive, the prognosis becoming serious.

## ROYAL MEDICAL & CHIRURGICAL SOCIETY.

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### ON TRACHEOTOMY IN CROUP.

BY CONWAY EVANS, M.D.,

Assistant-Physician to King's College Hospital, and Physician to the Public Dispensary, Lincoln's-inn, etc.

The author commenced by remarking upon the frequency and fatality of croup as a disease of early life, in illustration of which he observed that out of every thousand deaths of children between the ages of one and ten years which occurred in England and Wales during the year 1856, sixty were due to this malady. He then proceeded to examine into the rate of mortality from croup, and pointed out the very slight measure of success which has hitherto attended the methods of treatment usually employed in this disease. The following cases—four of croup and two of diphtheria (?)—in which tracheotomy was performed, were then narrated in detail :—

Case 1.—A boy, aged nine years. Attacked with croup of slow accession; temporary amendment in the symptoms, followed by threatening suffocation; tracheotomy; death four hours after the operation; existence of croupous exudation down to the second and third subdivisions of the bronchi.

Case 2.—A girl, aged three years. Croup, treated by leeches, counter-irritation, tartar emetic, and calomel; tracheotomy on the fifth day, asphyxia being so complete as to render artificial respiration necessary; ejection of false membrane from trachea, and likewise two casts of small bronchial tubes; after-treatment of a freely-supporting character; recovery perfect.

Case 3.—A boy, aged two years. Croup, between two and three days, treated with emetics; tracheotomy on the third day, suffocation being nearly complete; death during the operation; the croupous exudation found after death to extend down to the first subdivision of the bronchi.

Case 4.—A boy, aged two years and a half. Croup treated by tartar emetic; suffocation imminent on the fourth day, from the accession of the croupous breathing; tracheotomy; death from exhaustion sixty-five hours after the operation; false membrane found after death to extend down to the fourth subdivisions of the bronchi.

Case 5.—A boy, aged five years. Diphtheria (?), coming on slowly and insidiously; breathing croupous on the seventh day; treated by emetics, counter-irritation, calomel, and compound antimonial powder; suffocation imminent on the eighth day; tracheotomy, followed by supporting treatment; ejection of a piece of false

membrane; sudden accession of severe diarrhoea about thirty-six hours after the operation, and death from exhaustion. No post-mortem examination.

Case 6.—A boy, aged ten years. Diphtheria, coming on very insidiously during nearly a month; treated by salines, and the application of a solution of nitrate of silver to the throat; supervention of croupous symptoms, treated by counter-irritation, leeches, antimony, calomel, and chlorate of potash; asphyxia impending; tracheotomy, and stimulating after-treatment; death, apparently from syncope, about twenty-six hours after the operation. After death a thick false membrane, separable from the subjacent mucous membrane only with considerable force, was found to line the larynx and trachea, and to extend to the bifurcation of the latter; it probably, indeed, passed down into the lungs, but an examination of these organs was not permitted.

Observing that, as in a large proportion of the fatal cases of croup the disease destroys life by asphyxia, the author proceeds to inquire into the reasons why tracheotomy is so rarely resorted to for the relief of this malady in Great Britain, and traces this mainly to the influence of the strong opinions against the operation which have from time to time been pronounced by many great authorities, both British and American, whose views in reference to this point are cited. These opinions the author believes have no valid foundation, and are unworthy of the confidence generally placed in them; and to this conclusion he is led by four classes of considerations, which are examined in detail. These are—1st, the high rate of mortality from croup, both with and without treatment; 2nd, the immediate cause of death in a large majority of the fatal cases of the disease—namely, asphyxia; 3rd, the recorded cases of croup in which tracheotomy has been resorted to in this country when the patient has all but been suffocated, and in which complete recovery has followed the operation; and 4th, the great success which has attended the performance of tracheotomy in croup in France, in which country it has been extensively practised. If to each of these considerations its fair value be assigned, there can scarcely be any other conclusion but that it is incumbent upon the practitioner to give a fair trial to any method of treatment in croup which promises for its results a lower rate of mortality than obtains under the usual plans, and especially to tracheotomy.

The objects to be gained by the performance of tracheotomy in croup are next pointed out, stress being laid upon the fact that the operation affords time for the disease to run its course (which would frequently not involve the destruction of life, except for the occurrence of asphyxia, which ought really to be regarded as a circumstance in the disease in great measure accidental), and for the administration of such remedies as may be deemed advisable. The

physiological effects of the free admission of air into the lungs through an opening in the trachea, in a child undergoing gradual suffocation from croup are then considered; and the immediate cause of death in those cases in which life terminates by asphyxia is also examined: the practical conclusion arrived at being, that while the symptoms of suffocation may be relieved in almost all cases by the late performance of tracheotomy, they may be prevented in many by recourse being had to that proceeding early in the course of the malady.

The principal objections which have been urged against the performance of tracheotomy in croup are then considered in the following order. Tracheotomy in croup has been objected to—

*a.* As unnecessary when there is spasmodic closure of the larynx, and as useless when false membrane exists in the windpipe without such spasmodic closure.

*b.* As useless when the false membrane extends below the point at which the opening into the trachea would be made, and especially when the croupous exudation passes down into the bronchial tubes.

*c.* As tending in itself to induce bronchitis and pneumonia—diseases which in themselves involve considerable risk to life.

*d.* As having been actually attended with so little success as practically to render the operation unjustifiable.

*e.* As very difficult of performance, and as involving in itself great danger to life.

The real value of each of these objections is then carefully and fully examined in the order above given, the answer to the first objection being illustrated by the following case:

Case 7.—A girl, aged three years; croup treated by the warm bath and by tartar emetic, in spite of which the case progressed from bad to worse until the third day, when, while symptoms of asphyxia were being gradually developed and signs of exhaustion were becoming well marked, the patient suddenly fell back and died, with scarcely a struggle. After death, but before the post-mortem examination, tracheotomy was performed. A mass of false membrane was found, almost filling the larynx and quite occluding the rima, and extending downwards to the third ring of the trachea; but the *lowest* part of the croupous exudation was just *above* the top of the tracheotomy incision. No false membrane existed in any other part of the trachea.

The results of tracheotomy for the removal of foreign bodies from the air-passages are then investigated, as well as those of the performance of this operation for the relief of other maladies than croup. But as the statistical method of examining the subject is believed by the author to be productive of an impression upon the mind of the practical physician by no means so lasting as a narrative of the results of clinical observation, the following cases in which tracheotomy

was performed for the relief of other diseases than croup are given in detail.

Case 8.—A man, aged forty-three years; came under observation when nearly exhausted from distressed breathing, dependent on syphilitic disease of larynx (probably ulcerative); tracheotomy, followed by a supporting plan of treatment; recovery; but, although able to return to his occupation (a laborious one) unable to breathe without the tracheal tube eight months from the operation.

Case 9.—A gentleman, aged seventy-two years; nearly asphyxiated from spasmodic closure of the larynx, associated with some disease of that organ (probably of a malignant character); tracheotomy; recovery as regards breathing; but, though living in a state of comparative comfort, unable to breathe without the tube for nine months after the operation.

Case 10.—A man, aged thirty-six years; suffocation impending from oedema of glottis; tracheotomy, followed by a strictly supporting plan of treatment; recovery complete and rapid; voice also perfectly restored.

Case 11.—A girl, aged fifteen years; nearly suffocated from oedema of the larynx, supervening upon chronic disease of that organ associated with "lupus non exedens" of face, lip, and thigh; tracheotomy; recovery, but inability to breathe on the withdrawal of the tracheal tube two months after the operation.

Case 12.—A lady, aged twenty-eight years; oedema of glottis, supervening upon tubercular disease of the larynx; suffocation imminent; tracheotomy; temporary recovery, the patient continuing to live in a state of comparative ease for five months after the operation, when death resulted from exhaustion consequent on the full development of the pulmonary phthisis.

Case 13.—A woman, aged twenty-three years; oedema of larynx associated with syphilitic disease of that organ; treated by calomel and opium, in spite of which suffocation became imminent; tracheotomy followed by supporting treatment; ejection of a complete cast of bronchial ramifications of one lung; recovery complete, except as regards voice.

Case 14.—A girl, aged nineteen years; sloughing of the soft palate and the back of the pharynx, of syphilitic origin; inability to swallow; supervention of oedema of glottis, and threatening suffocation; tracheotomy, followed by supporting treatment, the patient being fed for several weeks by the stomach tube; recovery complete.

Case 15.—A boy, aged three years and a half; foreign body in windpipe; tracheotomy, but no foreign body discovered; incisions in trachea enlarged, and windpipe freely examined on several occasions, but without success; eventually, incisions made, not only through several rings of trachea, but also upwards through both the cricoid and the thyroid cartilages, so that a finger could be readily passed from the trachea

into the mouth, but still without the detection of any foreign body; ultimate recovery complete, and voice regained.

The conclusion deduced from all these considerations and facts is, that tracheotomy, though frequently a difficult operation, is by no means so dangerous a proceeding as is commonly supposed.

An inquiry is then instituted into the causes of the want of success which has attended the performance of tracheotomy in croup in this country, and this is attributed chiefly to the following circumstances,—namely:

1st. To the fact that tracheotomy has been very rarely indeed resorted to in croup in Great Britain except as a last resource, when other methods of treatment have been tried and found unavailing, and when the patient has become nearly asphyxiated.

2nd. To the fact that the treatment employed prior to the performance of the operation has almost always been of a more or less depressing kind, usually consisting in the exhibition of tartar-emetic, ipecacuanha, calomel, the abstraction of blood, the use of the warm bath, &c.

3rd. To the fact that the after treatment has not generally been of that supporting character which nature requires for the due upholding of the patient's strength until the phenomena of croup shall have had time to run their course; and to the difficulty experienced in commanding constant attention in the way of nursing and watching for some days after the performance of the operation.

The author then strongly urges the propriety of having recourse to tracheotomy for the relief of croup early in the course of that disease, and immediately that the existence of false membrane in the windpipe can be satisfactorily determined, and emetics have been fairly tried: and for these reasons:—

a. Because tracheotomy tends to prevent the mode of death by which nearly all fatal cases of croup, in which the operation is not resorted to, terminate,—namely, death by asphyxia.

b. Because tracheotomy facilitates the ejection and removal of portions of false membrane from the windpipe.

c. Because tracheotomy tends to prevent the exhaustion due to the extraordinary efforts of breathing almost always made by the patient in this malady.

d. Because tracheotomy, by prolonging life, affords time both for the phenomena of the disease to run their course, and for the administration of remedies and of means of support to an exhausted system.

e. Because tracheotomy facilitates the employment of topical applications to the interior of the windpipe, upon which great reliance is placed by some practitioners.

f. Because the early performance of tracheotomy in France has been attended with results which are admitted even by the opponents of the operation, to have been far more favorable

than when recourse has been had to this procedure as an ultimate expedient.

The physiological and pathological differences between the condition of a child merely asphyxiated by croup, and that of a man half-strangled by some mechanical cause, are then pointed out and the necessity which exists in the former case for the free employment of a supporting plan of treatment is clearly proved.

The cause of death in those cases of croup in which a fatal termination ensues, notwithstanding the performance of tracheotomy, is next examined, and this is shown to depend upon one or more of the following conditions:—

1. On some accidental circumstance connected with the operation, such as hæmorrhage into the windpipe, obstruction or undue narrowness of the tube, &c.

2. On asphyxia dependent on the extension of the croupous exudation into the lungs, or on the re-formation of the false membrane after its having been once ejected.

3. On complicating diseases (either connected with the operation, or without any reference to it) arising in the course of the croup, such as bronchitis or pneumonia.

4. On exhaustion—death by asthenia.

The author believes that croup, when it proves fatal, always tends to destroy life by exhaustion, and that this would be its ordinary mode of termination were it not that the part of the body in which the most striking alterations of structure induced by malady occur, is one in which the existence of such a mechanical obstruction as is presented by the croupous exudation tends, as well in itself as in the spasmodic closure of the larynx, with which it is often associated, to destroy life by suffocation before the disease has had time, as it were, to run its full course, and produce death by asthenia. And he, therefore, strongly advocates the propriety of adopting a supporting plan of treatment in this malady, both before and after the operation, but especially after its performance. The value of alcohol, as a remedial agent in the treatment of disease, is then examined, and the method in which it should be given—viz., in small doses at short, but regular, intervals—is pointed out. Alcohol should be regarded, as has been remarked by Dr. Todd, not as a specific remedy, but simply as a kind of food. It is really a hydrocarbon, very easy of digestion, possessing certain properties of enabling the body temporarily to withstand exhausting influences, and capable, by its undergoing oxydation in the system, of maintaining the animal temperature, and of preventing waste of tissue. The *modus operandi* of the remedies usually employed in croup is then discussed, and their real value indicated, and the error of supposing this disease to consist in ordinary inflammation of the windpipe is alluded to; and, while the inefficiency of the remedies commonly used in croup is pointed out to be such as theory would lead us to expect, the same fact is

shown practically by the results of experience, which clearly indicate that under all plans of treatment, exclusive of tracheotomy, croup is a very fatal malady. The value of emetics is also examined, and the danger which frequently results from the employment of tartar emetic is dwelt upon.

The circumstances which tend to diminish the chances of success from tracheotomy are then referred to under the following heads;—

- a. The age of the patient.
- b. The existence of pneumonia or bronchitis.
- c. The presence of other diseases, such as measles, whooping-cough, &c.
- d. The employment of depressing remedies prior to the operation.
- e. The postponement of tracheotomy until the patient is *in extremis*.
- f. The extension of the croupous exudation into the lungs.

After suggesting a few practical hints in connexion with the operation itself, and in regard of the inhalation of chloroform in these cases, and after briefly glancing at the various points which have been examined in detail, the author thus concludes: It only remains to warn the practitioner against expecting a large share of success from this operation, inasmuch as in our present inability to ascertain whether the croupous exudation is limited to a small portion of the windpipe, or whether it extends into the minute branches of the bronchial tree, we must necessarily oftentimes recommend its performance in cases in which death must almost inevitably take place. But while a careful examination of this subject clearly indicates the propriety of making an opening into the trachea in those cases of croup in which false membrane exists, and of not postponing the operation until the last moment, and while it leads to the anticipation of a decided diminution in the rate of mortality from this disease when the early performance of tracheotomy is extensively practised, the student of science cannot but feel that tracheotomy is at best but an expedient of relief, capable by its mechanical action of obviating certain tendencies to death, and, by enabling the administration of support to an exhausted system, of affording time for the due occurrence of certain processes necessary to recovery. Nor can the practical physician forget that some effectual remedy for croup has still to be searched for, not to be found in all probability until the true etiology and pathology of the disease are far better understood than at the present day. At the same time it is impossible to foretell how near at hand the day may be when there shall be found a man who will do for croup what Jenner did for small-pox, or when there shall be discovered a remedy for this malady as certain in its power and as efficacious in its action as is iodide of potassium in syphilitic periostitis, or as is quinine in ague.

ON A CASE OF LARGE VESICAL CALCULUS SUCCESSFULLY REMOVED BY THE RECTO-VESICAL SECTION.

BY GEO. SOUTHAM, ESQ., F. R. C. S.  
Surgeon to the Manchester Royal Infirmary.

The patient, aged twenty-one years, was admitted into the Manchester Royal Infirmary with symptoms of vesical calculus, from which he had been suffering about sixteen years. On sounding him, the stone was found to be of large size. He was emaciated almost to the lowest point compatible with life, unable to leave his bed, and suffering from a constant desire to empty the bladder, with severe pains in the loins and the lower part of the abdomen. The urine was loaded with pus, and, on standing, formed a thick, white, viscid sediment. It was highly ammoniacal, and a very considerable quantity of albumen was precipitated by boiling and the addition of nitric acid. Operative proceedings were deemed inadvisable until the hectic fever and great debility under which he was laboring were relieved. He was therefore placed on nutritious diet, with eight ounces of wine daily; and the bicarbonate of potash with opium, and large dilution with water, were given to allay the irritation of the mucous coat of the bladder. Under this treatment the patient's strength so much improved, that in a month the question of operation had to be entertained. Judging from the long period of sixteen years, during which the stone had been growing, the grave effects it was producing on the health of the patient, and from the more certain evidence of examination by the sound, and the finger introduced into the rectum, the author was convinced that the concretion was of large dimensions. The bladder had become so contracted by long inflammation that only a few ounces of fluid could be injected into it, the general health was still precarious; and to crown the embarrassment, there was still a copious deposit of albumen in the urine. The question that suggested itself was the following; did this indicate degeneration of the kidneys? If so, any thought of operation must be renounced. To the solution of this difficulty the microscope now afforded valuable assistance, and by this instrument the urine was repeatedly examined to discover whether any fibrinous casts of the uriniferous tubes were present; none, however, were found, nor any reliable indications of renal epithelia. And on the more accurate comparison of the quantity of pus and blood in the urine with the amount of albumen precipitated by nitric acid and heat, the conclusion was come to that the albumen came from no higher source than the bladder itself, and was simply deposited from the liquor puris and small quantity of blood always present in the urine. As the kidneys were considered not to be implicated, an operation was determined upon, and on the 17th of December the calculus was removed by the recto-vesical section. Chloroform having been administered, and about half a teacupful of warm water injected into the bladder, a scalpel,

guarded by the finger, was introduced into the rectum, and the sphincter and lower part of the anus completely divided. The urethra was opened anteriorly to the prostatic portion, and the finger passed through the wound into the bladder. As was suspected, the calculus proved to be of large dimensions; accordingly, the wound in the prostate was enlarged. By means of the finger, the rest of the prostate and neck of the bladder were sufficiently dilated to admit a pair of forceps. On the introduction of the forceps, it was found to be impossible to grasp with them so large a stone, as the contracted and indurated state of the bladder prevented the divergence of the blades. A scoop was now used, but with no better success: the stone could not be disturbed from its original position. Finding it difficult to lay hold of the calculus in the usual way, Mr. Southam had the screw of a straight-bladed forceps removed, so that the blades could be separately introduced, one above and the other below the stone. The handles having been brought together and the screw re-inserted, the calculus was grasped and slowly extracted, the operation occupying from ten minutes to a quarter of an hour. The calculus measures eight inches in circumference in one direction, and seven inches in the other; it consists principally of triple and earthy phosphates, with a nucleus of lithic acid; it weighs 4oz. 6dr. 25grs. The patient had an excellent recovery; no constitutional disturbance of any amount followed the operation. The bowels were restrained in their action for a week by the administration of opium. Up to the 31st of December, all the urine passed by the rectum; it now commenced to come by the urethra. No inconvenience was at any time experienced from the passage of fecal matter through the urethra. The pus and albumen gradually increased in quantity. The fistula was not interfered with until the 18th of February, when, as some of the urine continued to pass through the rectum it was examined. It appeared to be in the membranous portion of the urethra, and about a quarter of an inch long. It was touched once with nitrate of silver, and subsequently, on two occasions, the electric cautery was applied. He left the hospital on the 28th of April, cured; having for the three weeks previously been free from all signs of the fistula, during which time he was engaged in assisting the nurses in the wards.

Mr. Southam, in his remarks, does not advocate this operation except in especial cases, considering that the lateral method is the safest in the majority of instances. He was induced to resort to it in the above-mentioned patient on account of the state of the bladder, and the unsatisfactory state of the general health. After referring to the risks which attend the lateral method when the calculus is of large dimensions, he alludes to the objections urged against the recto-vesical operation, the principal of which is, its liability to the formation of a permanent

fistula. This, he believes, may to a great extent be avoided, if the incision into the urethra be limited to only a part of the prostatic portion. He considers it will be seldom necessary to extend the incision through the neck of the bladder, experience having convinced him that the obstacle to the extraction of large calculi by the lateral method exists more in the surrounding structures than in the prostate, which readily yields to steady and cautious dilatation. In the case now related there was abundant proof of this; indeed, a calculus of much larger dimensions than the one described could have been abstracted without difficulty by the same incision. He proposes to call the operation the recto-urethral.

### Editorial.

#### THE JAMAICA PUBLIC HOSPITAL AND LUNATIC ASYLUM.

Within the last eight or ten months, we have more than once had occasion to draw attention to the state of the Public Hospital and Lunatic Asylum in Jamaica, and to the controversies to which the subject has given rise. As things seem to be getting worse amongst the authorities of the island, ever notorious for its discord and misrule, and as the Colonial Office will find it extremely difficult to delay much longer taking a decided part in the matters at issue, it may be well very briefly to recapitulate the leading points, as they have been represented to us, of a dispute which not only affects the destiny and privileges of the medical profession, but seriously involves the still higher consideration of justice to the suffering poor.

Upon the death of the late principal medical officer of the institutions, Dr. Bowerbank (one of the leading physicians of Kingston) considered it his duty again—for it was no new subject with him—to urge upon the Island Government the necessity of a thorough reform, sanitary and administrative, of the Hospital and Asylum. No one could deny the bad hygienic condition of the buildings; the only difference of opinion was as to the amount and mischievousness of the evil. Some trifling surface improvements had been made; but as long as old unemptied cesspools, foul drains, defective ventilation, leaky roofs, &c., remained, it was obviously nonsense to talk of any real change for the better. As to the administration, the abrupt dismissal of the governing commissioners and their replacement by a single well-paid, but inexperienced officer, seemed to imply that it was acknowledged at length to be much at fault.

During the public discussion to which these matters gave rise, sharp and angry words passed between Dr. Bowerbank, the prime agitator in the movement, and Governor Darling, who was believed to be unfriendly to a thorough and



open investigation of the charges brought against the institutions, and to be bent on an arbitrary settlement of the whole affair by his own fiat. Accusations of unfairness, and even of untruth, on the one hand, were answered by most intemperate acts of vindictiveness on the other. Faults, doubtless, there might be, as on all like occasions, on both sides; but the general impression on the public mind was certainly anything but favorable, we have been told, to the representative of the Crown.

Dr. Bowerbank, finding it impossible to have a full and searching inquiry made by the local authorities, came over, at no small personal inconvenience and professional loss, to this country at the beginning of this year, with the view of bringing the whole matter directly under the knowledge of the Colonial Office, and of urging upon Sir E. Lytton the necessity of having it investigated by a competent and impartial person or tribunal from this country. In this hope he was foiled by the cold reception he encountered in Downing-street. Determined, however, not to let a subject of so much social and professional importance drop without making every exertion in his power, he brought it under the notice, he informs us, of the Commissioners of Lunacy, presided over by the Earl of Shaftesbury, and one-half of whom are medical men of the highest qualifications, and continually engaged in such inquiries as he sought for. The Commissioners went very fully into the whole case, and the result was that they addressed a strong memorial to the Colonial Minister, now the Duke of Newcastle, urging the necessity, on the grounds of public justice and morality, of having a strict investigation made on the spot by one or more officers to be sent out for this special purpose. The Duke expressed his concurrence in this recommendation; but he has, it is said, in the despatch sent by him to the Governor, accompanied it with such conditions, depending on the will of the local legislature and executive, that it is not likely to lead to any immediate practical results. A month or two must elapse before the issue is known. Meanwhile, it is a great point gained, that the Duke has rescinded the decision of Sir E. Lytton, and has now admitted that the affair cannot be allowed to drop, or be left to the arbitrary settlement of local functionaries all of whom have been openly accused of being more or less implicated in the misdoings.

Unhappily for the cause of peace and good government in Jamaica, fresh fuel has been added quite recently to public and professional discontent, and again Governor Darling and a medical gentleman are the parties who have caused the combustion. By what must be universally regarded as a flagrant abuse of official power, the former has appointed, and in a clandestine manner it is said, a young gentleman, who has just passed his examination and received his diploma, to the high and onerous office of Consulting Surgeon to the Public Hospital, over

all the heads of the profession in Kingston. These gentlemen at once protested, in a firm and most respectful memorial, against such an unheard-of act, which was very naturally looked on as befitting a Turkish Pasha rather than the responsible Governor of a British colony. Want of space prevents our insertion of the protest, which was signed "by the entire body of medical men, with one exception, now practising in Kingston," and also of the Governor's reply, which must strike everyone, his own friends not excepted, as more worthy of a shuffling attorney in a bad cause than of a representative of her Majesty's honor and authority.

Immediately on the back of this correspondence appears in the public prints of the island a long and most vituperative letter against the Governor from Dr. Fiddes, one of the signers, and one of the ablest and most experienced medical men in the colony. He has certainly, in his indignation at the Governor's conduct, transgressed the bounds of parliamentary decorum, or even of legitimate invective, in some passages, and so far we would reprobate rather than excuse. But surely things must have come to a strange pass in the administration of a British colony when a gentleman of the high social and professional standing of Dr. Fiddes has had his feelings so wrought upon by official misconduct as to give vent to such bitter denunciations.

There is one amongst the charges against the Governor which strikes us as most especially reprehensible: his alleged attempts to crush a Lying-in Institution, founded by the lamented lady of his predecessor, Sir H. Barkly, and patronized by the highest and most respected of our countrywomen in the island, and to set up a rival one, to be conducted by his nominee, the young Consulting Surgeon of the Public Hospital.

It is high time that such scandals should cease; and while we would urge all our professional brethren to keep strictly within the limits of respectful language, however sharp and condemnatory it may be, we cannot but express our hope that Governor Darling may retrace some of his recent steps, and retire from a position which must infallibly lead to his own discredit and detriment.

#### A LUNATIC'S WILL AND A PHYSICIAN'S LEGACY.

In the inquisition of lunac yon Miss Ewings, of which we elsewhere give a summary, Dr. Thomas Shapter said that, "remarks were made when medical men received legacies from their patients," to which the Commissioner replied, that "it is quite right that such remarks should be made." Acting on this suggestion, we shall offer a few observations on this unprecedented case. We say unprecedented, for, to the honor of our profession be it noticed, that although the pages of Shelford contain numerous instances in

which attorneys have, by undue influence, attempted to divert the property of lunatic clients into their own pockets, no example is there recorded of a physician having with his own hand made the will of a lunatic patient, bequeathing the property to himself, and appointing himself sole executor. As a rule, the delinquencies of our profession are against the person, while those of the law are usually against property; and from this, no doubt, it happens that the suspicions of the Courts relating to the wills of lunatics are directed against lawyers rather than against physicians. "Where the relation of attorney and client exists," says Shelford, "and the former frames the will for his own advantage and benefit, every presumption arises against the transaction. It is not necessary to prove fraud and circumvention; he must remove suspicion by clear and satisfactory proof."

An insane patient is certainly more dependent upon the good faith of the physician under whose care he or she is placed, than a client is upon that of the attorney; and therefore the principles laid down by the Courts with regard to the action of the latter in making a will for his own benefit, would doubtless apply with full force to the former. With these principles to guide us, let us examine the outline of the facts which attended the making of the will of Miss Phœbe Ewings, whom Commissioner Warren and a jury of twenty-three, gentlemen, on the 17th ult., unanimously declared of unsound mind and incapable of managing herself and her property, Miss Ewings, without any improvement from an attack of mania following paralysis, and characterized by delusions and great decay of the faculties, was removed from an asylum in Lancashire, and placed by the relative who had taken charge of her under the care of Dr. Shapter, of Exeter, on the 16th of February last. Immediately afterwards the doctor professed to entertain the opinion that she was of perfectly sound mind, and, without asking any consultation with other medical men, he constituted himself "the guardian of herself and her property," opened her letters, and transacted her business. He excluded the access of her relations, and in so doing undoubtedly assumed the custody of her person. At this time it appears that the unhappy lady first made unfounded complaints of ill-treatment received from her friends and relations, and expressed hostile feelings towards them, which Dr. Shapter admits he did not attempt to remove. On the 15th of April a petition was presented by Dr. Greenup, the next of kin, to the Court of Chancery, to take the lady and her property under its protection. To oppose this petition, Mr. Sharpe, her former medical attendant, is sent for from Warrington, and, in the weak good-nature of old age, "he makes so good an affidavit that Dr. Shapter thinks the petition will be abandoned." After this, the poor old lady is persuaded to make her will, because "people would be hunting after her money." On the 30th of May Dr. Shapter makes her will

in his own handwriting. Witnesses are wanting, and the lodging-house keeper and her servant discharge this duty, Dr. Shapter undertaking to convert their legacies into gifts and to pay them at once, so as to ensure the validity of the instrument. This will leaves £800 in legacies, and the residue (£13,000) to Dr. Shapter, who is named residuary legatee and sole executor. When the solicitor hears of this transaction he shakes his head, well knowing what will be said of a will made under such circumstances; so on the 2nd of July a new will is made by himself, but in Dr. Shapter's presence and with his sanction. This second will differs from the first in containing reversionary clauses to convey the property, in the event of Dr. Shapter's death, to his eldest son, and, in the event of "Master Tom's" death, to the other children in equal portions: thus placing it out of Dr. Shapter's power definitively to repudiate the bequest.

After this, can any man in his senses believe that Dr. Shapter did not intend to have the money, or, at least, to let it go to his children? If so, why this anxious care that the will should be valid? Why is it postponed until Mr. Sharpe makes his "good affidavit"? Why are the witnesses to it struck out from the list of legatees, or why did not Dr. Shapter witness it himself? Why is the first will superseded by a second instrument more formally drawn? And, above all, what is the meaning of the reversionary clauses, and the strange secrecy which is preserved about them, so that Dr. Shapter, who is bound to tell the whole truth, leaves the witness-box without breathing a syllable on this most important point? It would be painful, and it is happily needless, to indulge in comments on this extraordinary transaction. That it is extraordinary, is proved by the unhesitating confidence with which wealthy lunatics are entrusted to the care of medical men. If it were thought possible that medical practitioners could take part with the morbid antipathies of their insane patients against relatives, and make wills for them in their own favor, either no lunatic having property would be confided to medical care without insulting precautions, or some statute would quickly be enacted to prevent or punish so flagrant a breach of trust. The authority above quoted says—"No family would be safe if the law did not impose upon the lawyer difficulties amounting almost to disqualification to become a devisee for his own benefit." Let us believe that, notwithstanding an extraordinary exception, which scandalizes the profession even more than the public, the operation of the law is not needful to cause the avoidance of such practices amongst physicians. The existing confidence of the public is an unanswerable assurance in the affirmative. That it may continue to exist, we cannot too strongly reprobate any deviation from that line of strict honor in relation to the property of patients which is the common characteristic of the profession.

This is not the first occasion, during the present year, in which Dr. Shapter has made an unsatisfactory appearance in lunacy trials, since, in January last, his conduct in *Lyon v. Lyon* brought on his head the heavy judicial censure of Lord Campbell. But it is one thing to have done this in the interests of another, and quite a different thing to have acted as he did in the case of Miss Ewings. The scandal of lunacy physicians boxing the compass of opinion in the interest of their clients has been in itself sufficient to damage their good fame; but it was reserved for the present occasion that an old lady, unquestionably insane, should be defended from the protection of the Court of Chancery, at an expense to her property of about £3000, in order that she might leave the remainder of her property to the physician having the custody of her person. We trust that as such an occurrence has been without a parallel in the past, its defeat and exposure will leave it without one in the future.

#### FLOGGING IN THE ARMY; ITS BRUTALITY AND DANGER TO LIFE.

We have not been indifferent to the reports which have been in circulation respecting the alleged recent "brutal floggings" at Woolwich and other places. Within a brief period we hope to be enabled to publish some authentic and valuable information on this exciting and distressing subject. It is alleged that the construction of the "cat" has been altered, and that it is used in a mitigated form. It is also contended that the odious instrument still consists of nine lashes of the most tightly-woven whip-cord, with nine knots in each lash. If such be its present construction, fifty strokes from this instrument of torture might inflict hundreds of lacerated wounds, with thousands of perforations through the skin answering to the positions of the knots. On what part of the body is this horrible torture inflicted? Why, on the back of the chest, in close proximity to the heart, the lungs, all the chief bloodvessels and nerves of the trunk, and the spinal marrow—the seat of sensation and motion. Whatever may be alleged to the contrary, we have no hesitation in declaring that the wounds we have described cannot be inflicted in the situation mentioned without being attended with danger to human life.

#### SANITARY IMPROVEMENTS.

If any of those rustic Boards of Guardians who are daily sitting in solemn conclave, bewildered with that unmanageable problem which seems to beat hollow everything in Euclid—namely, *how to diminish the Poor-rate*—would condescend to peruse a little pamphlet\* which we have ourselves just digested, they might find

a helping hint for their struggling endeavors. The fair sanitary reformer—its authoress—rather astonished at the many gross violations of the laws of health committed in workhouses, "which the lady visitors might, doubtless, do much to prevent, if their attention was not so exclusively directed to the spiritual state of the inmates," is in despair at "the tight lacing which is practised in them through the ignorance and false economy of their managers."

"In these establishments"—(hear it, unblushing and Procrustean guardians!)"—"the girls' stays are provided by contract; they are not made to fit each individual, but each individual has to be fitted to them. New-comers are laced up in the boned straight-waistcoats of their predecessors, however different their figures may be. The weaker must give way to the stronger, the stays being generally the latter. The consequences are often serious, for vanity being indigenous even to workhouses, the young growing girls, not content with the unavoidable pressure of the boned stays, increase it by tight lacing. . . . Would that some sensible women were there to tell them not to waste the parish money on the certain means of deformity and disease!"

Now, what amount of pecuniary saving might result if workhouse governments would act upon this sound advice, or whether parochial boards of green cloth might, or might not, feel some delicacy in interfering with so peculiar and private a feminine conventionalism as is thus boldly descanted on by our fair sanitary reformer, we would not undertake to say. This much, however, we may venture upon affirming, that they must save *something*, both as regards the money of the rate-payers and their own reputation for common sense, if they would cease the continuance, for the future, of so gross a violation of the laws of health. It is not unlikely, however, despite the rapid progress which sanitary science is making, that the Cimmerian twilight of the workhouse will be the last to undergo illumination from that source of light from whose centre radiates, "*Salus populi est suprema lex.*" We agree with "B. R. P." of this "New Sanitary Association," that the notion of cultivating health according to what we now call the laws of life, has not penetrated far into the rustic or the official intellect. But midway between these two extremes it undoubtedly occupies a large portion of the Englishman's time and mind; and, with "B. R. P.," we really should like to know the increase in the manufacture of tin baths within the last twenty years—how many sponges have been disturbed from their zoophytic meditations, and what profit has been secured upon soap and flesh-brushes. In the practical working out of the "sanitary idea," there are two fields for its development: there is a *public* and a *private* field. The *first* is now able to show us that the drains of London present a longer mileage than her streets, and that

\* Remarks on Woman's Work in Sanitary Reform. Published by the Ladies' National Association for the Diffusion of Sanitary Knowledge. pp. 20. London, 1859.

the marshy districts of the land are literally traversed by a network of pipes.

"Almost every town, large or small, has its peculiar type of sanitary medical man—a man who is always blinding himself over his microscope, and poisoning himself over his gases; whose acute nose is the despair of the parish authorities and the rate payers amongst whom he dwells. This man is always drawing up papers for associations, and he predicts all the fevers that come to pass. He sweeps and white-washes with furious energy after the cholera, when, for a little space, the frightened authorities permit him to have his own way, and then, in spite of this extraordinary complaisance, he is cruel enough to persecute them with dreadful statistics of the ravages of death, and odious comparisons of what was, and what might have been had he been minded at an earlier date."

The *second* unmistakably tells us, that the best public intentions, supported and carried out by Acts of Parliament, &c., only result in half consequences, so long as the customs and manners of a people, brought up under bad conditions, and rendered negligent by hopelessness, are not made to undergo a fundamental change. A certain, but limited, class of educated people are, no doubt, beneficially influenced by the scientific sanitary literature of the day, the precepts and writings of the medical authorities of the time guiding them aright as to many hygienic relations. But to the mass of people, the formal teachings of these authorities, couched in a technical and Latinized tongue, are not only too frequently unintelligible, but actually repulsive. Hence, public endeavors are constantly hindered by private indifference. Towards the correction of this evil an Association was formed in 1857, "for inducing ladies all over the country to take a lively interest in sanitary reform, and for supplying them with domestic tracts upon the laws of health, and the management of the household, to be distributed wherever the cottager and the artisan can be induced to read them."

By this Society it is intended to popularize and spread the practical directions of modern sanitary science amongst a class of people little used to deal with figures, and to whom Boards and Acts of Parliament convey nothing but an idea of officious interference. It will tell them that to say

"The average rate of mortality is high in a given district, means, that when a mother looks round upon her populous nursery, she must expect to lose one or more of those little children before they have grown up. It means, that if a child is seized with whooping-cough or scarlet fever, that child has a bad chance of recovery. It means that the young mother is in more than ordinary danger of dying in childbed, and that the soldiers and sailors who are born and bred in that particular district are physically ill fitted to sustain the glory of their native land. It

means that many coffins will be bought of the undertaker, and that the milliner will often sit up at night to finish mourning clothes." ("The Ladies' Sanitary Association," *Englishwoman's Journal*.)

That this attempt of our countrywomen to take a prominent part in sanitary science and literature merits our warmest commendation and support we frankly admit. To translate into popular language, and practically illustrate in simple forms the abstract truths of hygiene amongst the illiterate and rougher classes of the people, is a needful and much-to-be-commended duty. But still it appears to us that these particular endeavors have a dash of the "Mrs. Pardiggle" school about them. They aim *too exclusively* at the "working"—the "lower classes." We quite agree with "B. R. P.," that when the housewife has got a good supply of water,

"We must, by hook or by crook, infuse into her unaccustomed intellect the notion that it is good to wash the house, and to give refractory pinafores a chance of being clean. The baby must no longer be fed upon cold sausage; and Tommy, with remittent fever, must not be laid in a four-poster, with shut windows and a roaring fire. It is not good to whip Alexander M'Stinger till he is red hot with screaming, and then set him on the stones to cool."

But is it only amongst the Mrs. M'Stingers of Poplar and Wapping that domestic sanitary measures are at a low ebb? Is Belgravia so intimately more immaculate than "Brig-place?" We want, writes a member ("B. R. P.") of the Sanitary Committee,—

"The action of *women* in every parish; we want the clergyman's wife and the doctor's daughter to know the laws of health, and to enforce them in the perpetual intercourse, which we hope and believe they maintain, with the poorer neighbors; the squire's lady and the peeress, whose husband owns half the county; the distant visitor, who cares for the soul; and the parish nurse, who attends upon the sick. If all these women could be made to work with a will, and 'a woman with a will,' as the *Household Words* observes, 'is a fine thing,' what a difference might be wrought in the average mortality of England!"

Such persons, no doubt, are wanted; but certainly their advice is as nearly essential for the future improved domestic economy, infantile management, female dress, &c. of their own classes of society as it is for that of their "poorer neighbors." If gin, close rooms, and dirty rags flourish in St Giles's, champagne suppers, crowded ball-rooms, and over-nude dressing are all conspicuous in St. James's. Is the ventilation of "the Princess's" superior to that of the "penny gaff?"—or are salmon and lobster-sauce more wholesome than the less patrician sprats and onions? Not a whit of it. This new sanitary institution is right, but it is only *half*

right, depend upon it. The infant of the poor may be badly fed; but does the rich mother always suckle her own offspring? If nursery-maids and servants want teaching, of what are the generality of the mistresses amongst the "upper ten thousand" more capable than "fancy braces" and "bread-baskets"? Moreover, as it has been well remarked, does it not seem almost a mockery to read to a poor woman, with six small children, and a husband earning from eight to twelve shillings a week, the consolatory advice of the Sanitary tract—viz., "take good, plain, wholesome food, and plenty of it!"

#### THE CASE OF THOMAS SMETHURST.

The reprieve of Smethurst may be regarded as the verdict of the country. It is a remarkable example of the value of public discussion. It is, above all, a signal proof of the pure love of justice that stamps the national character and institutions of England. It would be difficult to point to any convict who has excited so little personal sympathy as Smethurst. His previous career, and the circumstances of his connexion with Miss Bankes, are so marked by low selfishness that no feeling akin to tenderness or pity can be entertained towards him. Not even the plea of passion too wild to bear the restraints of law or religion can be urged in extenuation of his conduct. Sordid, calculating venality appears through all. Notwithstanding the absence of any personal quality or collateral circumstance to stimulate the movement in his favor, he has been snatched from the gallows by the almost unanimous decision of his countrymen, who, reviewing the case upon its abstract merits, find that the heavy charge upon which he was found guilty by a jury is not substantiated by the evidence. Casting aside all feeling for or against the prisoner, unswayed by the circumstances that seem to establish a motive for the crime and to justify a strong suspicion of foul play, the country, acting as a court of appeal, has deliberately analyzed the evidence, and, finding it defective in the essential points, has cancelled the verdict of the jury. It may be doubted whether in any other country a revision of the sentence of a legally-constituted tribunal would be conducted by the press and by the people in a temper equally free from excitement, and in a spirit so purely vindictory of public justice. The history of such a case as this may well be referred to as an answer to those foreign jurists who reproach us with the want of a court of appeal in criminal cases. With a free press, with the habit of judicial investigation, and the simple love of justice that animates every citizen amongst us with the resolve to see right dealt out to everyone, we stand, perhaps, in less need of a complicated ascending scale of criminal courts than is experienced in countries where the tribunals receive little or no aid from external discussion. In this case it may be said that, through the machinery of the press, not

Smethurst, but the Law, has enjoyed the benefit of the experience of the entire body of the medical profession, in the elucidation of the obscure scientific questions upon which the verdict turned. The evidence elicited before the jury has not only called forth fresh testimony, but has naturally challenged the criticisms of the profession. The result is a partial, if not wholly satisfactory, vindication of justice. The spirit of English law yet calls for something more than a reprieve. If it be admitted—and the reprieve actually admits so much—that Smethurst is not proved to be guilty of the crime of murder for which he was arraigned, he is logically and justly entitled to an absolute discharge. If he is still held a prisoner, it must be either for the crime of which he is admitted to be innocent, or for some other crime for which he has not been put upon his trial. But we cannot in this place pursue the inconsistencies of our criminal law. We may leave them with the less regret, under the conviction that the resulting evils are mitigated by the wholesome action of public opinion. Although Thomas Smethurst, now declared not proved guilty of murder, can only be released by the granting of her Majesty's pardon for that offence, the gross inconsistency that strikes the moral sense can work but little harm, in the face of that universally-operating public opinion which sees through the fiction, and reduces it to a technical form.

We reserve for our next publication a critical epitome of this now celebrated cause, the special object of which will be to bring out its medico-legal bearings. Our present purpose is simply to advert, in a general manner, to the public interest of the case as illustrating the advantages accruing from a free discussion of the evidence; and the position more especially, of Medicine as an ally of the Law. To some, perhaps to many, it may appear that Medicine in this case has been at fault; that since it was made to support a charge of the heaviest degree of criminality, which upon more rigorous examination could not be sustained, scientific testimony has lost its claim to some of that confidence which it challenges before the world. It is no part of our duty to defend indiscriminately every medical witness. The profession are only concerned for the just credit of Medicine. We may observe, that if Medicine may seem to have sustained some little hurt in this trial, it is not because science was at fault, but because she was unfortunate in the particular individuals who chanced to be her exponents. It so happened that the witnesses for the prosecution failed to grasp all the scientific elements in the question before them, and consequently, to appreciate at their just value the facts which fixed their attention. But their omissions have been amply supplied by the correcting experience and more deliberative judgment of the witnesses for the defence, and still more by the re-examination of the evidence by

the general body of the profession. In this way Medicine has in the end fully asserted her competency and usefulness. By common consent, the public has admitted the insufficiency of the moral and general evidence to justify conviction for the crime of murder. The moral evidence at most raises a presumptive motive—suggests that Smethurst had an interest in destroying Miss Banks. Of direct evidence, such as the possession of poison by the prisoner, mixture of poison with the food or medicine, there is none. The whole case rested, in the first place, upon the scientific evidence. That must first be proved which Medicine only is competent to prove—namely, that the deceased died by poison; then the moral and general evidence which suggests that the prisoner was the most likely person to administer the poison, comes to bear. But unless the first—the strictly medical point—he decided in the affirmative, the second point has no existence—the general evidence goes for nothing. Now if, trusting too implicitly to the partly erroneous and generally fallacious testimony of the scientific witnesses for the prosecution, the jury came to the conclusion that Miss Banks did die from the effects of poison, the appeal after the trial to the wider experience and unprejudiced judgment of the profession completely proved the fallacy of the first conclusion, and established the perfect competency of Medicine to pronounce a satisfactory decision upon the case as presented to the public. That decision has, in fact, been accepted by the public; and its ratification by the Home Secretary is the final acknowledgment of the services that science has in this case rendered to the administration of justice.

#### THE CASE OF SMETHURST, ITS MEDICO-LEGAL VALUE.

The trial and revisal of the sentence of Smethurst are concluded. The various questions of evidence have been thoroughly discussed. It remains to pass the whole case under review, and to determine its medico-legal value in its application to future inquiries in which the aid of science may be invoked. We may premise that the question submitted by Law to Medicine was simple and distinct. It was nothing more nor less than this—Did Isabella Banks die of irritant poison or of natural disease? The scientific witness had no other problem before him. He was bound to discard from his mind all preconceptions, all bias, drawn from what is called the moral evidence, or from collateral circumstances. It was beyond his province—in as far as he was a medical witness—to seek for corroboration of any opinion he might form upon this purely scientific question in the suspicious conduct of any incriminated person. It was his duty to seek in his own professional skill for that evidence which was to lead him to a conclusion. If the resources of Medicine are not sufficient to enable the expert to solve the pre-

liminary problem as to the cause of death, then is the medical witness bound to express this insufficiency to the Court, or to abstain from all interference in the matter. We submit this general principle because we think it necessary that the true position of the medico-legal expert should be rigidly guarded. As medical journalists, it is our peculiar duty to examine a question of this nature in its exact professional bearings. It belongs to the general press, to the lawyer, and to the public, to estimate the general evidence, and to connect the scientific evidence with it.

Looking at the matter in the abstract light thus defined, we will first record the medical history of the deceased person, and then endeavor to appreciate the significance of the symptoms and morbid appearances observed. It is a case for the medical diagnosis we have before us. We are called upon to proceed according to the obvious rules of clinical investigation. We take the symptoms from the medical witnesses for the prosecution—Dr. Julius, Mr. Bird, and Dr. Todd. The facts only are narrated, freed from all comments and speculations of the observers.

Dr. Julius was called to see Miss Banks, a lady aged forty-three, on the third of April. She was suffering from vomiting and diarrhoea. The matter vomited was of a grass-green color. These symptoms continued, resisting chalk-mixture, grey powder, Dover's powder, and laudanum injections. On the 8th, blood was found in the evacuations. The symptoms kept increasing from day to day, the diarrhoea was constant, the vomiting still continued, with violent retching and straining, and frothy mucus was ejected from the stomach; there was great hardness of the abdomen; her strength was failing daily; she used to complain of burning heat in the throat and mouth; burning all through the bowels; the very act of swallowing made her sick. There appeared aphthous spots on the tongue. On the 16th and 17th, there was no change. On the 22nd, she was decidedly worse, and much weaker. Mr. Bird particularly describes the character of the stools: at first they presented no remarkable appearance, but afterwards they contained blood and considerable quantities of mucus; the mucus was stained with blood, and there was also shreds: some of the motions consisted almost entirely of mucus stained with blood. There was no faecal matter at all. Latterly the patient took bismuth in seven grain doses; acetate of lead and opium; nitrate of silver—all without effect in allaying the symptoms. Tenderness of the abdomen was not particularly noticed. Dr. Todd was called in on 28th of April. His attention was attracted by the remarkable hardness and rigidity of the muscles of the abdomen; and there was a *very peculiar terrified look*, as if she was under the influence of fear or terror, which did not appear to him like the effect of ordinary disease. He prescribed a quarter of a grain of sulphate of

copper and a quarter of a grain of opium three times a day. The patient died on the 3rd of May. Thus far with the symptoms. The pathological appearances were described by Mr. Barwell, Dr. Taylor and Dr. Wilks. The first gentleman, the one who superintended the autopsy, says: The back part of the body was externally of a dark color from gravitation of fluid blood; the arms were flexible; the legs rigid; the feet were a good deal bent downwards, and turned in, and the muscles at the bottom of the feet were hard; tongue rough, papillæ more elevated than usual; no signs that could be put down as aphthous; the face was much emaciated, of a dull clay or earthly color; the lower lip drawn in under the upper teeth. The front part of the body generally was of this dull earthly color. The brain, heart, and lungs were healthy. The uterus contained a fœtus, the appearance of which led Mr. Barwell to conjecture that gestation was of five or seven weeks standing. The liver was slightly fatty. The œsophagus was healthy. The stomach on the outside at the pyloric end was red; at the cardiac end, dark-colored; in the centre, pale. Inside, the pyloric end was red; at the cardiac end was a large black spot from effused blood; there were no ulcers, no perforation, nor appearance of acute inflammation. The contents of the stomach were a brown mucus mixed with blood, and some bile. The small intestines, examined externally, generally were inflated, and minutely injected with blood, and in certain spots they were roughened by lymph, the result of inflammation, and adhesions existed. The duodenum was inflamed for about three inches from its commencement, but the mucous membrane was quite firm, and there was no ulceration; from that point the rest of the mucous membrane was only slightly injected, not inflamed. In the jejunum, the mucous membrane was still firm, the vessels injected in spots. In the ileum, the mucous membrane was greatly altered towards the lower three feet; there was a deposit of lymph, and thickening; an ill-organized granular lymph; the membrane was roughened, and the glands were less visible than usual; this deposit of lymph did not begin in the glands, but went over the whole surface, and concealed the glands, instead of rendering them more prominent. On the mucous membrane of the cæcum were many large spots, inflammation, sloughing, ulceration, and suppuration. These appearances diminished on proceeding lower down. In the colon there was still ulceration, but in a minor degree. In the rectum there were three ulcerations. There were black spots of effused blood in the cæcum, colon and rectum. Dr. Wilks concurred in the above description, but said that he regarded the liver as healthy, with the exception of its being slightly fatty. Mr. Barwell's account of the liver was not free from confusion. He at first said it exhibited an early stage of cirrhosis, and afterwards withdrew this opinion. We find no account of the pathological appearance of the

kidneys. Such we believe to be a complete statement of the medical history of the case. To it may be added the results of the chemical investigation. A suspicion of poisoning having arisen, an evacuation, passed on the 30th of April, was submitted to analysis by Dr. Taylor. The test used was Reinsch's. He found a metallic deposit of a greyish-steel color, attached to the copper wire; this being heated in a tube, yielded crystals of arsenic. Dr. Taylor calculated that there was less than a quarter of a grain in the whole four ounces of evacuation. In another evacuation no trace of mineral poison was detected. The tissues of the body gave the following results: In the œsophagus and stomach no arsenic or antimony was discovered. In the small intestines antimony was found; the whole quantity was "calculated not to exceed, probably, from a quarter to half a grain." The liver and other organs gave no evidence of metallic impregnation.

This constitutes the entire case upon which the medical witness is entitled to form an opinion. Nor can it be said that the case is a meagre one in detail. There may, indeed, be points about which the pathologist might desire more accurate information. But we possess, at any rate, a tolerably full account of the case in its symptomatology and in its pathology, aided by a chemical examination. The elements for forming a judgment upon the cause death may be regarded as complete. If there is any omission in the observations taken or recorded, the fault lies with the witnesses for the prosecution who had charge of the case. We omit from the chemical evidence the curious history of a bottle of fluid found in the possession of the prisoner, which was at one time declared to contain seven grains of chlorate of potash and one grain of arsenic to the ounce. The positive evidence given to this effect before the magistrate at Richmond no doubt very seriously prejudiced the case against the prisoner; but as it was subsequently admitted by Dr. Taylor that this chlorate mixture contained no trace of arsenic, and the Court disposed of the matter as a "blunder," we may altogether exclude it as an element for scientific consideration.

What is the diagnosis? We naturally, in the first place, examine the hypothesis of the prosecution that Isabella Bankes died of irritant poison administered in small and repeated doses. The inquiry is complicated by the uncertainty in the minds of the witnesses whether to attribute the death to arsenic or to antimony, or to both acting together. We are told that arsenic was found in an evacuation, and antimony in the small intestines. Dr. Todd deals with the question as to the particular poison in this way: "I believe that this lady died from the administration of irritant poison: antimony, arsenic, and corrosive sublimate are irritant poisons." Nor does any other witness commit himself to a more definite opinion. In the facts before us, we must seek



out ourselves for proof of arsenical, antimonial, or mercurial poisoning. We have the symptoms observed during life, the morbid appearances in the dead body, and the chemical analyses to guide us. And we may here remark, that evidence of the action or existence of the destroying poison ought, in the present state of medical and chemical science, to be demonstrated in all three of these sources of evidence.

Bearing in mind that proof of the presence of poison in the body is not, *per se*, evidence of death by poisoning, we have to consider the significance of the poison found. We have from a quarter to half a grain of antimony in the small intestines; we have an undetermined, but very small, amount of arsenic found in one evacuation. This is the sum total of the positive chemical evidence. The rest is all of negative tendency. Who is bold enough to say it is sufficient? And what shall we say if even that little is openly challenged by some of the most experienced chemists of the day! We have authority which is entitled to the greatest deference for suspecting that the analysis of the evacuation is open to a similar objection to that which has been admitted by the operator himself to be fatal to the analysis of the chlorate-mixture. Not only chlorates, but phosphates, nitrates, and other salts having an acid containing a like number of atoms of oxygen, possess the same property of dissolving the arsenic out of copper. Who shall say there were no phosphates in the evacuation? And who, relying on this fallacious evidence, will have confidence enough to affirm that arsenic was administered? The chemical evidence, then, is reduced to the quarter or half grain of antimony in the intestines. And we cannot but think that every physiologist will recognise the force of the argument urged by Mr. Rodgers in reference to the influence of chlorate of potash in eliminating arsenic from the system. It is objected for the defence that if death was caused by arsenic, abundant evidence of the presence of the poison must—skilful analysis being understood—be found in the liver and other organs. It is replied, that if arsenic was not found in this case, it is because it was eliminated by the kidneys through the agency of chlorate of potash. Mr. Rodgers gives this very logical rejoinder: If chlorate of potash was removing poison from the system as it was given, the poison would not have time to act as such; the chlorate would be a kind of antidote—that is, *if it would eliminate it*; but even this is distinctly denied. By experiment it is shown that, notwithstanding combination with chlorate of potash, both antimony and arsenic are found in quantity in the body. The chemical evidence, thus sifted, leaves, it must be confessed, but a slender residuum.

There remain the symptoms during life and the anatomical evidence. These must be considered by themselves, tested by their intrinsic value alone, and apart from any support from

the chemical evidence. Do the symptoms and the anatomical appearances point clearly and exclusively to death by poison? In considering this question, we do not think it necessary to balance the contradictory opinions and authorities of the medical witnesses: we avoid this invidious task. Nor need we impeach the judgment of the gentlemen who attended Miss. Bankes during her life. We examine the question with the advantage of the dissection, and freed from the prejudice created by the erroneous analysis of the chlorate-mixture. The symptoms amount to vomiting and purging, the evacuations latterly containing blood, and obstinately resisting a variety of remedies. These were attended by a burning sensation extending through the alimentary canal, and a terrified expression of countenance. Taken by themselves, we have no hesitation in admitting that these are compatible with the hypothesis of poisoning by arsenic or antimony. But they are not incompatible with another hypothesis—which is, that the vomiting might be due to pregnancy, and the remaining symptoms to dysentery. Acute dysentery is by no means so rare in this country as the scanty experience of some of the witnesses for the prosecution might lead us to infer. We have seen fatal cases, and find nothing improbable in the supposition that acute dysentery in Miss Bankes might be much aggravated by the complication of pregnancy. Nor can we altogether overlook the fact, that the medical attendants of Miss Bankes saw the operation of poison, the existence of which is problematical, and did not see the pregnancy, which was demonstrated by dissection. But the strongest objection to the poison-hypothesis is the absence of those post-mortem appearances which are all but constant where arsenic has caused death. There was not that marked punctate injection and intense inflammation of the stomach which may be regarded as pathognomonic of arsenical poisoning. We have no evidence of that ecchymosis of the endocardium which has been seen in other cases. There was no evidence of the intense congestion of the kidneys which is so commonly found. What we do find is inflammation and ulceration of the cæcum, colon, and rectum: conditions that may indicate a form of dysentery, but which fail to afford even a presumption of death from arsenical or antimonial poisoning. Some stress was laid upon the circumstance that the glands in the intestines were not obviously inflamed or enlarged. It seems to have been inferred that this sign is indicative of poisoning—the reverse condition attending dysentery. But this is an error. The usual course in arsenical poisoning is to find the glands enlarged; so that the presumption is against the poison-hypothesis. Not even an infinitesimal atom of mercury was found to support the suspicion of poisoning by corrosive sublimate.

In this analysis of the medical history we have closely followed the facts as recorded by

the witnesses for the prosecution, by whom they were observed. If we interpret them differently, it is because we survey the case more dispassionately, perhaps with more experience of pregnancy, dysentery, and arsenical poisoning; and because the whole case has now received, from various sources, an amount of light that did not exist at that time when these gentlemen arrived at their conclusions. Rigidly analyzing the case by the rules of medical investigation, we can now affirm that the allegation of death by poisoning is not proved by the symptoms observed during life, by the morbid appearances observed in the dead body, or by the chemical analysis. Yet by all three kinds of evidence, separately and conjointly, it ought to be clearly proved. No method of investigation was wanting, and yet the poison-hypothesis fails from its own weakness—for want of evidence. We cannot now but express our astonishment that so serious a charge should have been so confidently maintained in a court of justice, on evidence so feeble and equivocal; and we cannot conclude without congratulating the public and the Law that, through the free scientific discussion of the case in the press, the verdict of the jury has been practically reversed, and justice herself saved from perpetrating the very crime which she is appointed to punish.

#### ANNUAL MEETING OF THE BRITISH ASSOCIATION.

At this genial season of the year, Philosophy, like the tilled earth, bears its fruit. The seeds of science that had been sown in the winter, and nurtured in the closet and laboratory, reared in solitude, and blooming under the glare of the midnight oil, have now ripened, and sent forth their harvest into the world. Northern Aberdeen has been this year the market to which the scientific husbandmen have carried their grain. From all parts of these islands, from Europe and America, the gathering comes. A wonderful unanimity animates the various sections of the philosophic body: Mathematics, Chemistry, Geology, Natural History, Geography, Economic Science, and Mechanics, all become peripatetic. Aberdeen, whose boast it has long been that she, "like England has two Universities," may now rejoice in the thought that she has entertained representatives of all the Universities and all the capitals of the civilized world.

The President who this year opened the Chamber of Scientific Commerce, was the Prince Consort. And although Philosophy commonly consorts ill with Royalty,—being essentially self-relying and republican in her nature,—we see no cause to regret the association on this occasion. The inaugural address, delivered by his Royal Highness, is an excellent exposition of the objects and usefulness of the British Association. Some of the passages in it evince a well-informed and thoughtful mind. The scheme

of the Association, although vast enough in its scope is specially directed to the development of the inductive sciences. It has eliminated from its consideration and discussions those subjects which come under the description of moral and political sciences. This has not been done from undervaluing their importance, but from a desire to deal with those things only which can be reduced to positive proof, and do not rest on opinion or faith. The subjects of the moral and political sciences invoke not only opinions, but feelings also; and their discussion frequently rouses passions: for feelings are "subjective," as the German metaphysician has it—they are inseparable from the individual being; an attack upon them is felt as an attack upon the person itself; whilst facts are "objective," and belong to everybody. It is with them only that the Association deals. In the accumulation of facts, the machinery of a scientific Society are eminently useful. Through public discussions, the directions in which the search after new discoveries may be most profitably made are best recognized. The Society can thus stimulate individual and independent inquirers, and lend material aid to special nominees in following out systematic and combined investigations. Thus a Society presents the greatest facilities for the comparison and combination of separate contributions. It may thus lay down the foundations and rear the structure of the grandest and most useful scientific edifices. Nor are the benefits to individuals thus congregating for the interchange of personal knowledge less worthy of note. The geologist meets the chemist and the zoologist, and even in casual conversation, derives from them information that throws a new light upon his special researches. No one whose labors have been conducted in solitary communion with his own thoughts, or with the written thoughts of others, can form an adequate idea of the value of the unexpected relations or kindling suggestions that are struck out by *viva voce* communication. Words are never so truly winged to the human heart or human understanding as when they fly from tongue to ear. The speech that is read with indifference and without profit, may be listened to with rapture and vivifying instruction. It is living intercourse that gives the vital heat.

But apart from the knowledge gained and imparted at these meetings, they have a charm and an usefulness of a social character. Men of all classes meet on common ground; those of every variety of pursuit unite. The lawyer becomes acquainted with the physician, the engineer with the lawyer and statesman. The student of Nature sees the man whose haunt is the thronged city, and whose business lies almost wholly with his fellow-men. All benefit; none are losers. The remotest ends of the country are brought into friendly relations; and, what is of more transcendent interest still to the human family in all its national branches, that great and indestructible

ible league of free intellect against dynastic despotisms gathers fresh life and power. Although these sentiments did not find utterance from the lips of the Prince who presided over the inaugural meeting, we feel that they were not the less present to the hearts of many of his auditors. Some, no doubt, were there—conscious that science itself is only so far worthy of devotion as it is made a source of honor to God and of advantage to mankind—who see that the intellectual liberty nursed in Associations such as this, must one day draw after it that political liberty for which so many generous minds now sigh in the bitterness of hope deferred. Those who remember that a similar scientific gathering is this year postponed on the Continent, as impossible; those who call to mind the thralldom that impresses the literary and scientific academies abroad, will understand the interest with which the British Association is regarded by men who find in the interchange of scientific knowledge the only vent for the human sympathies that are swelling within them.

On every ground we invite the co-operation of a large-hearted profession, as is that of Medicine, in the British Association. By advancing knowledge, it tends to draw from Nature more enlarged contributions to the physical wants of Man; and by extending and cementing the brotherhood of Science, it tends still further to promote his moral welfare by freeing Intellect from the brutalizing dominion of arbitrary power.

Closely following the meeting of the British Association at Aberdeen, will be held the second annual meeting of the National Association for the Promotion of Social Science, at Bradford. That there is useful work to be done by such an Association we do not doubt. But the organization of the Society and the cast of the performers are somewhat too exclusive and bureaucratic to engage general co-operation. Where men committed to absolute and final opinions upon most of the leading subjects of social science occupy preponderant positions, there is but faint encouragement for the independent worker.

#### ADDRESS TO STUDENTS.

Knowledge is no longer the heritage of a few—the rare and treasured possessions of the monk, student, and prince. It is no longer cloistered in the retired cell, book-bound in the well-stored library, or fire-guarded in the mystic laboratory of the experimentalist. It moves amongst the universal crowd; it stirs in the market-place, breathes the smoky air of factories, cheers industrious poverty, and is content with the homage of leisure half-hours from workers of all grades. Wherever crowds of men are found, there now is knowledge found: it tinctures the mass—

“Totum quo infusa per artus,  
Mens agitat molem et ingens se corpore miscet.”

If the students who now throng the Schools of Medicine hope to attain social eminence, and enjoy that repute which lettered cultivation and philosophic distinction claim from the many, and which the accordant voice of ages has bestowed on the professors of Medicine, they must rise as far higher in their accomplishments over those who have preceded them in past times as science has flown on her untiring wing while the last hundred years have rolled on, and they must exceed in literature and polite information the general multitude as much as their predecessors surpassed contemporary laborers in the same field of investigation.

The heads of our Medical Colleges and Corporations have, therefore, recently resolved to increase the severity of the tests by which the assurances are obtained of a preliminary acquaintance with those languages which give the key to the works of the master-minds of antiquity, and with those branches of exact science which afford a necessary training for the mind that is to grapple with some of the sublimest and most difficult departments of knowledge, and such are undoubtedly included in the curriculum of medical study. These examinations, successfully passed, afford at once a guarantee of accomplishments now essential to English gentlemen, and of a training no less essential to students of sciences so advanced as are Medicine and Surgery in the present day. Let no student, therefore, complain of the severity of the tests by which his preliminary education is now gauged, while he stands at the threshold of his medical career. A life-long experience will but confirm him in a high estimate of the value of his polite and mathematical acquirements which will be to him an unspeakable comfort and satisfaction throughout subsequent years, and will be the more valuable and important if he return to them from day to day as to a source of strength and refreshment, and be careful to keep fresh in his mind the acquaintance with lingual and mathematical science which he is bound to bring with him to the schools of medicine.

He will have few opportunities during the first years of his medical career of doing more than maintain himself at the level at which he already stands. For it must not be concealed that the field of medical education has been extended until it includes so great a stretch of intellectual ground, and occupies so wide a space in the domain of knowledge, that more than ordinary labor is needed to become well acquainted with even the prominent features of the landscape. To follow the broad rivers of medical science, to climb its nearest hills, and wander in its most flowery gardens, are objects to which the mere ordinary student aspires. But it is less than should satisfy any one. No student should be content with the more cursory scanning of that difficult channel in which he is destined to be pilot. It is his duty to learn all the rocks on which the vessel of life may be wrecked, the quicksands in which she might be en-

gulphed, and the currents that threaten to carry her from the vital course. It is his duty to learn, while instruction is still at hand, and time favors his endeavor, which are the ropes, the sails, and the cables on which he may rely; when to handle them, and how to manœuvre the ship in times of storms and tempests. Accuracy and extent of knowledge are only to be gained by diligent study, by patient inquiry, by steady effort, and unflinching perseverance. These are the qualities which ensure success. Intellectual prodigies have shone from time to time; genius has coruscated with a bright and often fitful flame, and glittered from the highest pinnacles of success and fame. But the wisdom of past ages, and the experience of all generations of men, have but combined to bring home to our minds more strongly the conviction, that labor is the tribute dearest to fortune, and that the guerdon of success—in whatever sense that word be interpreted, in its highest or its lowest meaning—is only to be won by those who have arduously and earnestly trodden the thorny paths of toil. Let it be borne in mind, however, that something more than mere continuity of exertion is needed; intensity of exertion is equally demanded. For the labor will be valued, not according to the time expended, but according to the result produced.

It is the peculiar privilege of the student of Medicine, that while others are but the mere hewers of wood and drawers of water in the world of science—mere physical agents, as it were, in the intellectual movement, diffusing elementary knowledge or acquiring elementary facts—standing always on the lowest rounds of the great intellectual ladder, spending a lifetime in climbing, constructing, or patching the mere scaffolding of knowledge, and forever occupied with mechanical and auxiliary departments of science, mainly useful as a training—it is his high fortune to enter into the most sacred arcana of Nature, to unveil the mysteries of life, and to be brought face to face with the great primal laws of being. His studies are so directed as to lead him to the recognition of a common relation to humanity, and an universal inter-dependence in all that the world can show him. For him Life always animates the landscape, and as no studies can appeal strongly to the sympathies, and offer incentives of so great impulse to the intellect, as those that deal with the interests of life, so his labors have at once more attractive allurements, take more important bearings, and command more universal respect than those of any other votary of science. To him is revealed the whole force of that apothegm of the prince of philosophers, who when he said, "Knowledge is power," added also, and "knowledge is pleasure." To the instructed student in medicine the world is not as to other men. The dry bone that inspires others with a childish horror and insensate fright, speaks to him of a design, of wisdom, and beneficence. He is surrounded with forms which

address his reason no less forcibly than they impress the eye. The flower grows at his feet in obedience to laws which are not unknown to him; for botanical science has shown him the physiological marvels of its birth; the unity of structure which pervades all varieties of organic life; the marvellous combination of typical development and functional adaption which allies all various shapes, and reconciles a boundless external diversity of form and function with simple unity of cell-growth, and strict adherence to undeviating morphologic laws. The creatures of the field move and have their being in obedience to impulses of which he can trace the secret springs. Man is more to him than an incomprehensible piece of mechanism which he can only blindly admire. Anatomy, the most difficult, but the most essential, department of his study, and without an accurate acquaintance with which all his other knowledge will be of no avail, teaches him the plan of the vessels, the exquisite mechanism of the osseous structure, the nice distribution of motor and sensational function through the intricate cordage of nerves; it displays to him orderly arrangement in complexity; a simple law of typical formation predominant over a thousand devices of functional arrangement; and, while affording to him the essential technicalities of his art, supplies him with those unavoidable considerations of the grandeur and order of creation, which are the choice pabulum of the highest intellects. The commonest object can inspire him with speculation of the loftiest kind. The gases that surround him, the air that blows upon him, whisper secrets which chemistry has familiarized to his mind. The herb that springs from the mineral that lies encrusted in the earth, the creatures that supply human wants and own human sway, all forms of organization, and mere shapeless unorganized matter, have to him a special interest that is born from his knowledge of their attributes and uses, their divine endowments their marvellous adaptation, their all-wise design. He stands always in the face of a world that is not dumb as it is to so many other men, but speaks to him of things earthly, and more than earthly. His knowledge is of that kind which has been nobly compared with the mystic ladder in the patriarch's dream, its base resting on the primeval earth, its crest lost in the shadowy empyrean; while the great authors who for ages have held the chain of science and philosophy, seem to ascend and descend the sacred scale, maintaining, as it were, the communication between man and heaven.

Let the student but approach his labors in this spirit, and he will not shrink from the mechanical severity of application which they demand, if he would successfully attain to a perfect knowledge of his duties. He may be assured that no day can be spent in the lecture-room, no hour devoted to the less attractive toils of dissection, or the bedside study of disease, which will not bear a double fruit—

strengthening and purifying his intellectual nature, while they fit him for the responsible task which he is about hereafter to assume. It were idle to expect that the poetry and grandeur of his art should at once become apparent to his mind. There is a necessary drudgery, a wholesome discipline through which the student in all departments of knowledge must undergo. From this he is not exempt. Many weary hours must he pass in studying prominences of bone, in learning attachments of muscle, and distribution of nerve and artery; many a day will be employed in committing mere names to memory, and mastering technicalities which the impatience of the neophyte may pronounce to be alike tedious and useless. No man ever rose to just eminence in his profession who had not mastered its minutiae. It was their profound knowledge of anatomy which guided the unerring hands of Astley Cooper and of Liston, and made them the greatest operative surgeons of their day. These great men were students in anatomy, not only amidst their busy hospital career, but even to the last week of their lives. So let the student take heart from the thought that these studies have all a direct bearing on the great mystery of Life which it is his high privilege to fathom. Let him reflect how important a thing it is to be entrusted with this most precious appanage of humanity, and trustfully incline his mind to master the preliminary difficulties which muster thickly around him. His teachers are neither unaware nor unmindful of the great labor which his task demands; the earnest student will never stand in want of their encouragement and their kindly aid. Let him take his burden of doubts and difficulties to them; he may be assured of a cordial reception and helpful welcome. They have painfully traversed the same rough ground, and feel always a peculiar satisfaction in smoothing the way for those entrusted to their care.

In the practical study of disease by the bedside the student will find the true application of his theoretic erudition, at the same time that he enters upon the most deeply-important and the ultimate result of his education. Here he must unceasingly watch the aspect of disease, and familiarize himself with the enemy against whom he is trained to do battle; here he must bring all his acquired information, and test the principles which have been laid down for him in watching their application. Clinical experience can alone tip the arrow of his knowledge; without this it were a blunt and useless weapon. He who is most diligent in the dissecting-room, and in the wards of the hospital ever sets out in life well fitted for his duties as a practitioner in medicine. He will not fail, in following his distinguished teachers through the wards, to acquire something more than scientific and practical fitness for his vocation. He will learn from them to bear constantly in mind that those who are the objects of his study, and whose ailments

yield him thought and instruction, are suffering fellow creatures; he will see how deeply words of kindness and acts of mercy are valued by the sick. An hospital is a great school for the heart, and let the student never shut out the poor suffering patients who lie ranged before him from the wide exercise of his sympathy. Great capacity is rarely dis severed from true kindness, and it is not necessary to take refuge in the cold exclusiveness of scientific abstraction in order to attain to the highest skill and the most profound acquaintance with disease. The student of Medicine must ever bear in mind that his future office is to remove disease and mitigate suffering. These results cannot be effected by theories, however alluring, or by knowledge, however brilliant. They will be successfully attained only by study and observation in the dissecting-room and at the bedside. Refinements in diagnosis may be carried too far. Many ardent students have trusted too implicitly to the revelation of the test-tube and the microscope. Far be it from us to underrate these auxiliaries to the practice of Medicine; but they are only "auxiliaries." They are the mere ornaments of the Corinthian column, not to be disregarded or neglected, but to be estimated at their true worth. The cautious mariner should never lose sight of the certain "landmarks" which are to guide him in his career.

The road to greatness is indeed more difficult to climb now than heretofore. Science has attained a larger development, and knowledge has assumed more multifarious shapes. But if the path to eminence be more thorny than in days gone by; if the height be greater, the way more crowded, the din of competition louder and more overwhelming; if talents which in times now past might have justified the secure hope of quitting the shades of obscurity, and grasping the attractive fruits of world-wide glory, can now but rarely conduct to more than limited popularity and success; if it be "almost too late to be ambitious" of the highest and most alluring prizes; yet the medical profession has never at any time offered to so many the opportunity of passing through a career of exalted usefulness, and of achieving that highest glory and distinction, of which worldly fame is but a symbol.

#### THE NEW SYDENHAM SOCIETY.

When we predicted the downfall of the late Sydenham Society, in consequence of the jobbery with which it was identified, that prediction was met, upon the part of some of the officials, by remonstrances and a denial of the charges which we brought against the executive government. Time, however, proved that we were in the right, and, notwithstanding the somewhat studied abuse to which we were subjected, the Sydenham Society succumbed. It justly deserved its fate.

A new Society is now about entering its

second year; and if it progresses as it has commenced, it cannot fail to become a most prosperous and useful institution. Let it steer clear of cliquism, extravagance, and negligence, and its success is certain. Few of the works of the old Society have any real value, most of them being merely incumbrances on the bookshelf. Not so the works issued by the new Society. Here is the first year's list:—

Diaday "on Syphilis." Translated by Dr. Whitley.

Gooch "On diseases of Women and Children," with other papers. Prefatory Essay by Dr. Ferguson.

"Memoirs on Diphtheria." Selected and translated by Dr. Semple. With a Bibliographical Appendix by Mr. Chatto.

Two Works of Professor Schröder van der Kolk: (1st) "On the Spinal Cord;" (2nd) "On the Medulla Oblongata," and "On the Proximate Cause and Rational Treatment of Epilepsy."

Translations of Kussmaul and Tenner's "Experimental Researches on the Effects of Loss of Blood in inducing Convulsions;" Wagner "On the Resection of Bones and Joints;" Professor Graefe's Three Papers on Glaucoma, Iridectomy, &c. &c.

It is not surprising that the first edition of two thousand of these works is now out of print; but the Society contemplate new editions, if the number of fresh subscriptions should cover the expense of its issue.

For the year 1860 the following works are announced:—

"Clinical Memoirs on Abdominal Tumours and Intumescence." By Dr. Bright. Edited by Dr. Barlow.

A Yearbook for 1859, on Anatomy and Physiology, Medicine, Surgery, Diseases of Women and Children, Forensic Medicine and Toxicology.

Frerich's "Clinical account of Diseases of the Liver."

An offer on the part of Professor Simpson, of Edinburgh, to edit, for the Society, a reprint of Smellie's Midwifery.

Hebra's Atlas of Illustrations of Skin diseases.

We have given prominence to these announcements, because, under a judicious system of management, a Society like the one in question may be the means of conferring great advantages on the profession, and by far still greater advantages on the human family scattered throughout the globe.

#### CAN WE COLONIZE INDIA?

The recent publication of a parliamentary report,\* and the receipt of an important paper†

\*Report from the Select Committee on Colonization and Settlement (India); together with the Proceedings of the Committee, Minutes of Evidence, and Index.

† A Brief Review of the Means of Preserving the Health of European Soldiers in India. By Norman Chevers, M.D., Bengal Medical Service.—"Indian Annals of Medical Science," No. xl., 1859.

from Calcutta, remind us that we left untouched an important topic when lately discussing the Sanitary Condition and future Organization of the Indian Army. We felt bound to support, amongst other things, the views of Mr. Ranald Martin, which go to urge upon the Government of the East the absolute necessity for the future of removing the main depôts of the troops from the hot and pestiferous plains of India to the cooler and healthier mountains. That this is the only way by which a regularly-imported European race can be maintained healthy and vigorous, we endeavored to impress upon our readers. The question, however, has been carried a step further; it was asked by Mr. Martin, and has just been inquired into by a "Select Committee," and discussed by Dr. Chevers, whether at the same mountain elevations or neighboring spots to the "Hill Sanitaria," *an European stock might not be propagated and maintained in India?* Might not, for instance, the wives and children of the soldiers constantly live on the hills and be profitably employed there, the men returning to them as civil colonists at the expiration of their terms of service, and propagate and rear a stock? Might not men with their wives go from England to the mountain ranges of India as they do to Australia and Canada, settle there, profitably employ their capital, and maintain the race? Why should not great capitalists go there and employ many hundreds of hands, self-maintained in the climate of the hills? Would it might be so! We fear it must be confessed that our present experience does not embrace a single reliable fact which would go to show that our race can be continued, even through a few generations, without Asiatic admixture. Present experience, however, is not *all* experience; we may possibly have a different experience in the future. Nevertheless, it must be admitted there are strong grounds for questioning the feasibility of raising and perpetuating a self-supporting colony in any considerable part of India, whether on the plains or upon the hills. The reasons for this suspicion are well laid down by Dr. Chevers, who points out that from 1835 to 1858 not one single satisfactory instance could be met with which would support William Twining's inquiry—viz., "Does the third generation of the European race exist in India, all the individuals being of pure European descent, and having been born and reared in this country?"

All authorities, indeed, agree in stating that not one descendant of the Portuguese, who were so numerous, and for comparatively brief periods so powerful, at Hooghly and Chittagong, can be discovered without admixture of native blood. It is the same with the Dutch at Java, and in all the tropical colonies of the Netherlands; not a single white family of *unmixed* descent can be traced beyond the third generation; whilst on the west coast of Africa the *second* generation has never survived. But not only do the offspring of European men rapidly

degenerate within the tropics; the young of animals are subject to the same destruction, Henry Marshall, for example, argues the question as to whether a colony of the inhabitants of Great Britain could keep up their numbers in a tropical climate, in which the mean temperature is above 78° or 79° Fahr. He shows us, as he does so, that dogs imported into India are particularly liable to disease; they soon droop, and become excessively thin; many are said to die before they have been six months in India, and only a small ratio survive a few years. They rarely propagate their species. Imported cows and sheep do not thrive. Horses from high latitudes are neither so efficient nor so healthy as in their own clime. The answer to these and analogous facts is that our future experience amongst the "hills" may materially differ from what we have learnt upon the plains. But the more judicious authorities are very cautious in expressing even their most sanguine hopes. Mr. Ranaid Martin, in reply to the inquiry, "You consider that Europeans may settle on the mountain ranges consistently with their prosperity, and with their not degenerating?" answers, "In the mountain ranges I think so—to a certain degree not yet determined." Dr. Baikie, whilst he has no doubt that the race of persons well-off in life would be continued in the hill districts, adds—"Whether it would deteriorate is a question we are not prepared to answer. We have not sufficient experience; nothing but time can solve that question." Dr. Joseph Hooker, observes Dr. Chevers,

"Merely states that he knows of no obstacle to Europeans settling in Darjeeling, and that there is no reason to doubt the suitability of the climate; still he has of course to admit that the station having only been established in 1840, the time is too short to enable us to form inferences with regard to the suitability of the climate for the multiplication of the European race."

The Report now before us, whilst expressing the opinion "that the dangerous effect of the climate of India has been considerably exaggerated," and that the hill districts of India are well fitted for the reception of European settlers, nevertheless maintains that the term "colonization," as applied to India, must be regarded in a restricted sense. Though sanctioned in its application to India by modern usage and by the high authority of Lord Metcalf, *colonization* seems to mean here really no more than the occupation of certain portions of the country by "a superior class of settlers, who may by their enterprise, capital, and science, set in motion the labor and develop the resources of India." We are told that the inducements to a settlement of the *working classes* of the British Isles are not generally to be found in this country. These inducements may be said to be—high wages, the facility of obtaining land at an easy rate, the enjoyment of a constitution framed

after that of the mother country, a temperate climate, and the prospect of forming a part of a community speaking our language and conforming to our manners and customs. Now the land tenure of India has long since been mostly appropriated; the wages of labor are low; its government is absolute; its climate generally unfavorable to the permanent residence and increase of the British race, and to labor in the open air; and its usages, languages, and religion, are strange and repulsive to the English laborer. For these reasons, and in accordance with the testimony laid before them, the "Committee are of opinion that India cannot compete with the boundless regions of America or Australia as a home for the laboring emigrant," however available the climate of certain limited hill districts might be found. In reference to the latter, however, we must not forget such evidence as the following of Mr. Oliphant and Sir John Lawrence:—

"22 Sir Erskine Perry.—Has not the climate [Nepaul] a tendency to drive Europeans mad? I heard of European children suffering from goitre, and I saw some of them.

"23. Chairman.—Did you observe any instances of cretinism?—Yes."\*

"400. You do not think the hill regions are adapted for all classes of European diseases?—I do not think they are for pulmonary and visceral diseases. I think Mr. Martin has hit the point exactly. 178. I do not think life in the hills is very popular; they are shut up, and less liked because there is very little level ground."

"472. Sir Erskine Perry.—I gather from you that, on the whole, the plains of the Punjab do not afford any field for European colonization?—It depends upon what kind of colonization. If you mean for the higher classes of men of capital, I think it does; but if you mean with respect to men to go out to hold the plow or work in the sun, I think it does not."

"475. The hills of the Himalayas from their rough surface, do not afford a field at all for colonization, as we gather from you and others?—No, I think not, as a whole."

It is also painful to find it averred that "drunkenness is a great obstacle to the settlement of Europeans of the poorer class in India."

"354. Mr. A. Mill.—Do you ascribe the large per-centage of the mortality of Europeans in India to the climate only, or to other causes irrespective of the climate?—I think it is owing to various causes: for instance, a great deal of the mortality in India no doubt arises from the climate and from the habits of the European soldiery. The same habits in Europe would not produce the same amount of mortality or anything like it; therefore it is partly owing to

\* Upon this point reference should also be made to a recent work by Dr. M'Lelland: "Sketch of the Medical Topography of Bengal and the N. W. provinces;" article, "Goitre and Cretinism in Kamaon," London, 1869; Churchill.



the climate, and partly to their habits and modes of life in a climate which is not congenial to Europeans."

That the climate of India at some thousand feet of elevation above the level of the sea will be found much more congenial to our race than it is known to be upon the plains must be frankly admitted. The evidence of Mr. Ranald Martin and already existing experience fully warrant the *a priori* belief that it must be found to be so. But whether it will be so congenial as to permit of our propagating and permanently maintaining our race there—in fact, *colonizing* the hill districts of India, and from thence radiating our power over the adjacent plains—is a question which we are more inclined to answer in the negative than in the affirmative. According to Dr. Chevers. Dr. Colon Chisholm is the only physician who has upheld the systematic colonization of a tropical country by Europeans. The facts he brings forward, along with others collected by Dr. Chevers, do not go much further than to prove, in this gentleman's opinion, "that even in one of the most unfavorable climates (Jamaica), toil in the open air, if associated with constant cheerfulness and strict moderation in eating and drinking, is so much less hurtful, in comparison with the inactivity of mind and body, the lassitude, and the excess, which are almost inseparable from ordinary barrack life within the tropics, that it proves by many degrees the less of two evils."

Finally, we must bear in mind the caution impressed upon us by Dr. Chevers—that in discussing at a distance the feasibility of establishing agricultural colonies, tea and coffee plantations, &c., on the lower heights and in the valleys, we are not to suppose that those who undertake the experiment will even here encounter merely the vicissitudes of an English climate, or work in a soil which will readily repay labor by its productiveness. Exposure to the midday sun cannot be well borne in the rarefied atmosphere of the hills. Baikie has noticed that in the Neilgherries, where the temperature of the air in the shade is only 60°, the increase of heat from the sun's direct rays will frequently, in the dry season, raise it to above 81° Fahr.; while, if the heights, though barren, exposed, and restricted in space, are yet habitable, the valleys at their base are, if not quite unendurable, often deadly in the extreme.

Dr. Chevers is entitled to our best thanks for the continuance of his valuable labors, of which we may expect to hear further shortly.

#### BIRMINGHAM MEDICAL REGISTRATION.

Early in the last month, a number of the most respectable medical practitioners in Birmingham united to form the latest founded Society of its kind, for that important town and the surrounding country within its sphere, to be called "The Birmingham and Midland Counties Medi-

cal Registration Association." It was intended to be an independent Society for carrying out the objects aimed at by similarly constituted bodies. The situation of Birmingham in the centre of England was, doubtless, considered a most convenient one from which a widely-spread influence might extend as from a nucleus of considerable magnitude. But we cannot help expressing regret that the newly-formed assemblage did not formally, at the outset, connect itself—as many similar bodies have done—with the Medical Registration Association in the metropolis. The new Birmingham association has already adopted the rules which guided the central body of London at its formation, and its organization, down even to the establishment of a "Vigilance Committee;" and we do not doubt that eventually it will amalgamate with the parent Association, with which its intentions are so completely in harmony, and which could not fail to be materially strengthened by so valuable an accession to its numbers and power.

One circumstance, however, peculiarly distinguished the formation of the new Society. At the instant of its birth, a foolish heresy claimed its advocates amongst some practitioners who were either unable to understand what is meant by "orthodox" medicine, or whose sound adherence to the same may well be doubted, if any meaning is to be gleaned from their observations. A kind of begging-letter was put in from some homœopathic men, who apparently feared from the beginning that they had reason to expect they should not be admitted into the company of respectable practitioners who repudiated a nonsensical quackery. They sagely conjectured "that the term 'orthodox' had been purposely made use of to exclude homœopathic practitioners." There was no doubt of it at all. Dr. Ladd had written, in a letter to Mr. Spratly, the able and active Secretary of the new Association, "Keep out the homœopaths by some such rule as we have;" and that advice was carefully borne in mind. Mr. Postgate squeamishly moved the substitution of the term "legally-qualified" for that of "orthodox" practitioners, which, if carried, would have emasculated and completely stultified the whole proposition relative to the admission of members. Mr. Gamgee made use of the strange expressions, that "he should not oppose heresy, though always ready to uphold the truth;" and that, "as the Registrar was bound to admit all legally-qualified persons, he thought the Association should not object to enrol them as members. Now, the Registrar could not help himself. We hope that Dr. Francis Hawkins has no love for homœopathy, abstractedly considered: but in his official capacity, he could not decline to register the practitioners of that piece of delusion, if found to be possessed of legal qualifications. A Registration Association stands upon a footing very different from that of the official Registrar. Medical practitioners forming a Society to protect their mutual interests, and bound by no rules

but such as they impose upon themselves, have the right to exclude any persons with whom they may think it unfit they should associate. Dr. Anthony seems to have put this matter quite in its right light at the meeting in question—and in a few words, too—when he said, “The practitioners referred to were no doubt qualified to be registered under the Medical Act, but he objected to their admission into the Society. He should be exceedingly sorry to meet them as members, to sit in council with them, or to belong to a Society of which they formed a part.” In justice to the Birmingham practitioners, it must be stated, that on the amendment to admit homœopaths being put, only the hands of the proposer and seconder were held up in its favor, and it was scornfully rejected by the bulk of the meeting.

We have since received the “protest” of the excluded practitioners. It is a lachrymose affair, nearly as lengthy as the original report of the meeting, which would fill at least two of our pages, and it asserts at its termination that “there is a great deal too much of the spirit of quackery in the ranks of those who take the title of ‘orthodox.’” We hope this is not the case in Birmingham, but the prayer for the non-exclusion of heterodox practitioners on the part of members of the Association comes strangely from a place which would fain claim to be the head and home of the supporters of legitimate practice in the Midland Counties. Nothing of the sort was ever witnessed or heard in the London Medical Registration Association or its branches, as they have successively been formed in the metropolis. The determination to exclude homœopaths, mesmerists and all other quacks, has here been everywhere strongly and decidedly pronounced, and the soundness of tone amongst the practitioners of London and its suburbs in this respect gives them—even if other reasons were wanting—a substantial claim to stand foremost in the war against quackery without and within the profession of medicine.

### Medical Annotations.

“Ne quid nimis.”

#### VICTIMS OF DIPHTHERIA.

The *Berkshire Chronicle* publishes an able article on the ravages of diphtheria in that vicinity lately. The local obituary has recorded the decease of no less than five members of one family, during two months, from this terrible disease, which has carried its ravages into families of the classes where sanitary precautions are of the highest standard. In these five deaths, it was to be observed that the family resided in one of the most salubrious localities imaginable—in a large farm-house, on a lofty eminence, apart from any other dwelling, and where health might be supposed to have found

a favorite residence. The mortality commenced on the 21st of May with the death of a child, about the age of three years and a half. On the 3rd of June, the father, a healthy and robust man of thirty-eight, succumbed after about three days' illness. Six days after, the infant child, rather under two years of age, followed him; and twelve days after that, on the 21st of June, an interesting girl, aged eleven, departed. Finally, on the 5th ult., a son, just thirteen years old, made up the melancholy total of five. In the latter instances, the children had been removed from the house of death; but the insidious infection followed them. Nearly every inmate of the house, the mother excepted, was attacked more or less severely; and even the grandfather of the family, after seeing his only son and child taken, was himself visited by the disease, but, at the age of seventy-eight, has with difficulty surmounted it, and is now convalescent.

This lamentable history is pregnant with instruction. It illustrates many of the points presented for the consideration of the profession in the Report drawn up for *THE LANCET* by Mr. Ernest Hart, to which attention has hardly yet been sufficiently given. It especially enforces the contagious and infectious characters of the disease, which are so often put out of sight. It is one amongst many instances which show that diphtheria is propagated, as Bretonneau now maintains, by active contagion; and too great care cannot be taken to arrest the progress of a disease which overwhelms individual households with so horrible a desolation. It illustrates, too, the great importance of daily examination and medication of the fauces, when diphtheria has once declared itself in a family. By the observance of these precautions, diphtheria may, and has been, arrested in its most fatal outbursts; by their neglect, its progress is encouraged.

#### COAL-TAR AT THE FRENCH ACADEMY OF SCIENCES.

The French Academy continue to discuss the properties of the composition of plaster and coal-tar as described by MM. Corne and Desmeaux, which M. Velpeau introduced with so surprising a flourish of trumpets, and which that learned body received with premature acclamation. It borders on the ridiculous to observe the gravity with which the simplest facts and most trite remarks are hazarded as oracular novelties, and with how much circumlocution everyday matters are discussed. Certainly, if such a composition had been introduced at a small practical Society, or to half a dozen working medical men, its value would have been far earlier and more accurately appreciated. Meantime a series of papers are presented on the subject. Amongst others, is a communication to this eminent body from M. Renault, in which he gives an account of a long series of his

experiments, instituted "to determine whether it is the coal-tar or the plaster which possesses the disinfecting property." He wishes also to determine whether there be any other substances capable of producing similar effects. He concludes that plaster alone will attenuate the smell in a very slight degree, but can do nothing more! Coal-tar alone destroys the smell; it is therefore the coal-tar which is the real disinfecting agent. The oil of bituminous schistus produces the same effect as coal-tar, but its odor is more acrid and disagreeable. Vegetable tar produces the same effect as coal-tar and its smell is less disagreeable; it might therefore be usefully substituted. The plaster is only useful as a convenient and highly absorbent vehicle. M. Paulet thinks it useful because, being a sulphate of lime, it fixes the carbonate of ammonia by a double decomposition.

After all this has been said and done, there remains the question "*ex ou ta prota*." and it is not necessary to refer to the days of Bishop Berkely, or to the marvels recorded in Sirius, to learn how thoroughly and how long the antiseptic virtues of tar have been appreciated, and at one moment how greatly overrated in this country. Nor need the countrymen of Raspail be less instructed on this point. Of the practical value of the addition of plaster-of-Paris there may well be many opinions, according to the nature of the cases in which it is tried. It is to these dimensions that this "beneficent discovery" dwindles, and such, indeed, are the proportions to which most of these marvels ultimately shrink. But it is not conducive to the interests of medicine or of science that eminent bodies should so constantly offer a public arena for the cloudy expansion of theories, whose mighty outline of vapor is subsequently bottled, by the application of a little scientific compression, in the smallest imaginable compass. Such Societies do not meet in order to pass Arabian nights; nor can any amateur in hippophagy desire to see them sup so often on "mare's-nest soup."

#### A MEDICAL ACT IN BRITISH AMERICA.

The influence of the mother country's example in undertaking the work of consolidation for the profession, and proceeding to the purification of our ranks from disgraceful pretenders, has wrought with so much influence upon the minds of the colonists, that one of the last acts of the Legislature of New Brunswick has been to pass a Medical Act for the province, framed as nearly as possible in imitation of the recent English Act, being varied only to meet the local peculiarities of the province—the absence of medical colleges, and the want of a council to advise on sanitary matters.

The province abounds in unqualified persons and quacks in active practice of medical functions, and it is owing to their influence that the Act presents various modifications which some-

what cripple its efficiency. But it fully accomplishes that same main object at which the English Act aims—the union and progressive elevation of the profession. It is to be accepted, moreover, as an expression of appreciative concurrence from afar in the general movement for reform commenced in this empire. About ninety qualified medical men had registered in June. Meanwhile, the operation of the Act has not been free from difficulties. There is a homœopathist resident in the province, possessing no medical degree from any recognized university or college; this man proffered a homœo-diploma, and was very properly and necessarily refused registration. He threatens the Registrar with legal proceedings to compel him to put his name on the Register. The Council will very properly resist this claim. We cannot think that it will be supported by any court of law. It is very obvious that if the mere name of "college" or "university," self-assumed, and unratified by any state charter or recognition, is to entitle all pretenders under authority of that title to register, the Act would be a mere pretence. Unless the university or college whose diploma is tendered be an examining body properly instituted and recognized, and unless evidence be given that the diploma presented has been honorably obtained, registration must of necessity be refused. To compel the registration of every fellow who can show a piece of paper purporting to come from some unrecognized college or sham university, would be equivalent to enforcing the circulation of flash notes on the same footing as the Bank of England notes. We trust, then, that the Registrar will have the firmness to maintain his opposition until the complete organization of the Medical Council shall afford him full authority and support in opposing assaults, come whence they may.

#### DEATH AT THE SEA-SIDE.

London is passing through the various stages which converted its temples of fashion into solitary caves—which leave Hyde-park a desert, Bond-street a hermitage, and Pall-mall a Palmyra of useless palaces. The whole world is on the eve of flight in search of health, repose, fresh air, grouse and salmon—to the streams of Norway, the passes of Switzerland, the rocks of Wales, the Scotch moors, and the English watering-places. We have a word to whisper in its ear. Beware lest you find death where you seek health. You leave a healthy town for others exposed to diseases—endemic and epidemic. Few European watering-places are so salubrious as those of England; few English watering-places so healthy as London. The health of the United Kingdom is better than that of France, Germany, or Switzerland. English watering-places are not always very high in the sanitary scale. The mortality of many is above 20 in 1000: Bangor stood at 24, Aberystwith at

24, and Whitby at 26, during the last three months; Weymouth at 20, Clifton at 20, Cheltenham at 19, and Scarborough at 23. Ever and anon they are attacked with epidemics—diarrhoea, diphtheria, scarlatina, and the like. This is due to defective sanitary arrangements. Let the ruling authorities of these summer resorts look to it; a black mark in the Registrar's death-book will deter many visitors. Their mortality should not range higher than 17 in 1000.

#### ANÆSTHESIA BY CHLOROFORM.

The immunity from pain is a privilege so precious, that life itself is sometimes thought hardly too great a stake to play when enduring agony is risked on the other side. But it can never be the duty of the surgeon to endanger life for any other prospective gain to his patient; this must always be the highest consideration for him, and all else is lessened by comparison with its all-importance. If, then, it can be shown that the danger to life from the use of chloroform exceeds the saving to life which it can effect; if it can be shown that so many lives have been sacrificed by the employment of this anæsthetic, while there has been no corresponding gain in decreased mortality after operations arising from the earlier application of surgical procedure, due to a diminished repugnance to submit to such treatment, from the increased security and perfection which deliberation and immobility have brought to our modern operations, from the lessened shock, from the abstraction of pain, from the absence of the agonized anticipation, that broke the mental power and destroyed tranquility; if it could not be shown that from all these causes chloroform had been successful in diminishing mortality to a larger extent than it has caused deaths, then we think that surgeons would not be justified in recommending its inhalation to their patients. But we believe that the evidence on this score is sufficiently strong to justify operators in thus mercifully annihilating the agony, and with it the terrors, of the knife. It is to this end that the controversy has tended, which has been so ably supported by Mr. T. Holmes and Dr. Fenwick against Dr. Arnott; and that this conviction is entertained by all those best qualified, by their great experience, to judge, is best shown by the daily practice of hospital surgeons. There remains the great problem for study—how best to avert the danger which attends the inhalation of chloroform. We have repeatedly urged in these columns the duty of taking such precautions as the latest results of the experience of practiced chloroformists can suggest. We have especially urged the importance of carefully regulating the proportion of chloroform to that of the atmospheric air inhaled; and this not by any rule of thumb, such as the approximation or removal of a cloth damped with chloroform, but by the most accurate instrument which mechanical skill can sup-

ply. Other precautions are—the regulation of the quantity (one drachm at a time), the prescription of slight preliminary abstinence, and so forth. We need not repeat these rules; they have been more than once laid down in these columns. They are followed and approved by those most accustomed to the administration of chloroform. They were endorsed by Mr. Potter, the chloroformist of St. George's Hospital. They received last week the endorsement of Dr. Anstie, of King's College Hospital, who emphatically repeated our cautions almost *totidem verbis*, as borne out by his own experience. They accord with the opinions of Dr. Richardson, the friend and biographer of the late Dr. Snow; and we are glad to find that they receive the support of Dr. Martin, of St. Bartholomew's Hospital. In a Cambridge thesis on this subject, Dr. Martin reviews the dangers attendant upon the inhalation of chloroform. He considers them to arise from the influence of chloroform upon the medulla oblongata and sympathetic system, from "peculiar susceptibility" of the vital organs and nervous centres, and perhaps sometimes from shock. The latter cause may fairly be expunged, since it is, in a greater degree, characteristic of operations performed without anæsthesia. There remains a theory which is more comprehensive than satisfactory, and is perhaps rather an apology than an explanation. Be this as it may, Dr. Martin concurs in the opinion that "the best guarantee of safety is to be obtained by such cautious administration of the chloroform as may prevent the air and the blood in the lungs from being surcharged with the vapor, and by a jealous watching of the patient while he is being subjected to its influence." We trust that this accumulation of authorities will make surgeons more than ever loth to have recourse to the use of so loose and irregular a proceeding as the administration of chloroform on a handkerchief or napkin, or in any other way than through the most scientifically devised inhaler.

#### THE LICENSE OF THE APOTHECARIES' COMPANY OF DUBLIN.

A very important educational question has been raised under the Medical Act in relation to the right on the part of the Company of the Apothecaries' Hall of Dublin to grant licenses to practise medicine. That right is disputed by the authorities of the King and Queen's College of Physicians in Ireland; while it is warmly sustained by the licentiates of the Company.—The question at issue is one of considerable importance to those licentiates, since among other collateral issues raised is that of the right which this qualification would confer on candidates for medical commissions in the Army. The Director-General has most wisely decided that candidates for the appointment of assistant-surgeon in the Army shall possess a qualification in both surgery and medicine. This regulation

commends itself to the good sense of all, since the duties of the office are of a peculiarly mixed character, and it is obvious that guarantees are needed of both medical and surgical capabilities. The question is thus opened, whether the license of the Apothecaries' Hall of Dublin can be accepted for the medical qualification.—*Pendente lite*, it has been referred to the Medical Council. The Council decline to give any opinion on the subject; they will, of course, register the qualification, but they refuse to express any opinion as to the privileges which it confers. Under such circumstances, this qualification is manifestly inadmissible temporarily for the Army, and such has been the conclusion formed. But this position of doubt cannot be considered otherwise than most unsatisfactory to all who are interested. The Medical Council are required, in the terms of the Act, to submit doubts on matters of this kind to the Secretary of State for the Home Department, and it would appear to be due to the licentiates of the Company that their privileges should be defined by the highest authority. We are not able to transcribe the whole of the lengthy documents in which the controversy between the Apothecaries' Hall and the King and Queen's College is set forth. The statements on either side are intricate and somewhat contradictory. There cannot, however, be a doubt that the case made out in favor of the Apothecaries' Company is very strong; they possess an ancient and immemorial prescription, which favors their claim—and, from the tabular view of the course of education enjoined upon their licentiates, it is clear that a full curriculum of study is required, and it is fair to presume that their standard is not below that of other examining bodies. It is, we think, manifestly opposed to public policy and justice to deprive the members of any of the medical corporations already in existence of their professional privileges. If there be any shortcomings, the Council have power to call for their correction; if there be no real need of the license felt amongst the profession, that fact will itself tell upon the prosperity of the corporation in the progress of time. To declare that the license is valueless now, would seem to us oppressive; but it is quite right that the question should be decided. The present suspense will inflict the same injury, without being backed by the same authority, as a negative decision from the highest quarters.

#### DR. KING AND THE FRANKLIN PARTY.

The medical officers who have accompanied those Arctic expeditions which have so greatly glorified the name of English seamen, and honored English enterprise, have always been distinguished for the intelligent contributions, embodying the results of the voyages, which they have offered to the literary and scientific world. Amongst the most distinguished of Arctic medical officers is Dr. King, whose published works

have attested equally his zealous devotion to the great Arctic question, and his intimate acquaintance with the geographical and meteorological relations of this terra-incognita. When the continued absence of the Franklin party first excited the fears of English seamen, and became the subject of comment among the savans, Dr. King discussed, with great minuteness and ingenuity, the probability of Sir John having taken one of the several routes open to him, and maintained that he must evidently have taken the route towards the Great Fish River. These views Dr. King again and again brought before the attention of the Admiralty, and volunteered to conduct an expedition in the presumed route of the ill-fated party, which might have been arranged with ease, and at little cost. At the very time that he was pressing his offer upon the Government, Sir John Franklin and his devoted followers were traversing that path, and pursuing the very course which he marked out. The reasons which Dr. King adduced were fully stated; and so powerful was their united bearing, that one would imagine that only a foregone acquaintance with other facts not known to Dr. King could have justified the refusal on the part of the authorities to entertain his proposition.—It now appears that they were not in possession of any such facts; and the motives which operated to prevent them from allowing Dr. King to follow up the traces of these brave and devoted men are as mysterious as that refusal has been disastrous and deplorable.

#### THE ARMY MEDICAL SERVICE.

Progressive reforms in the Medical Department of the Army, under the able and kindly supervision of Mr. Alexander, the Director-General, tend daily to render that service more efficient in its relations to troops on service and at home, while they promote the interests and advance the cause of the surgeons of the Army.—The formation of a Sanitary and Statistical Department has been arranged, and the framework laid down. The hygienic relations of troops, which had been so much neglected, will now receive due attention, and the representations of medical officers, in all matters relating to sites of camps and ventilation, will find an authoritative voice, and an official channel of exposition. The old difficulties as to hospital stores will not again embarrass the surgeon. An admirable series of diets will be at his command, including all needful comforts and some exceptional luxuries. A comprehensive list of stores will await his requisition at every hospital; and the obstacles with the barrack-master who found the gridiron, and the purveyor who superintended the saucepans, will not again operate to limit the efficiency of the medical officer. Another boon, which will be greatly appreciated, is the establishment of a regular roster for foreign service, which can always be inspected, or from which extracts can be procured at any moment

by those who are interested. The surgeon not on active service can at any time ascertain the number of names before his own, how many of those who are above him are available for service, and the reasons which exist to prevent others from being employed. Hence he is tho roughly employed as to his position, and is not left in doubt either as to the probable period and nature of his eventual disposal, or as to the justice and equity which will regulate the proceedings taken in relation to him.

These and other reforms which are being gradually introduced into the Army Medical Service, under the vigorous and judicious administration of the present Director-General, must be considered as greatly enhancing the value of the substantial concessions in rank and emoluments ordered by the late Warrant. One result has been, that the ranks of the service have been largely recruited by intelligent and well-trained practitioners, and that, coincident with the increased advantages offered to the surgeons of the Army, a system has been adopted which will at once secure to the department the services of men of talent, and will afford to those of superior attainments the opportunity of making their powers available on fitting occasions, and of obtaining due reward for extra capacity and exertions. The standard of proficiency at the Army examinations will be higher than heretofore. Both a medical and a surgical diploma will be called for, and such additional training in ophthalmic, obstetric, and dental science as is demanded by the miscellaneous requirements of military surgeons detached on duty. The position of an Army surgeon is now a far more worthy object of ambition than it has ever been, and the service will not be the less popular that it has been determined to allow each man an opportunity of registering his capacity and acquirements at the time of entering, and of affixing a stamp to his reputation which will remain permanently for reference.

#### INSANITY AND THE REVIVALS.

The influence of overpowering appeals to the senses in exciting lunacy is a subject so important, that it were wrong to let slip the present occasion for studying the effects of mental enthusiasm and excitement which the Irish revival offers. Unfortunately, however, with this as with other topics which have a theological connexion, it is impossible to introduce the element of scientific investigation, of which scepticism is the life and breath, without alarming those who, being theologically interested, look to faith as their polestar. Hence a polemical character is acquired, which deters sober investigators from looking into some very important phenomena of no small psychological interest. It must, however, be said that a distinction should in justice be made between abstract controversial discussion, and the physical examination of corporeal phenomena; and that nothing but good can come of the true interpretation of the symptoms

observed. When we published, lately, such a brief analysis of certain indications of hysteria and high mental excitement accompanying the movement, and declared with candor that such phenomena could not be protracted or repeatedly induced in the same individual without probably leading to insanity in the end, this assertion was one evidently without any other medical and physical significance. When, therefore, it was subjected to theological criticism, we thought it wise to abstain from further discussion of a subject for which the material of observation was not immediately under our eyes. It is right to remark that the verification of these statements does not in any way touch the religious aspect of the revivals, since it is far from being shown that such bodily excitement is an essential ingredient in the movement. To men of reason, however, facts are always desirable. Hence we would refer to the recent statement of the correspondent of *The Times*, who says:—Taking the period between the 1st of June last and the present time, the numbers committed to the jails of Belfast, Downpatrick, and Monaghan amount to 45; while in 1858 they were only 22. Of this latter number, only one appeared to have had his mind overturned from religious causes; while in the cases occurring in 1859, the religious element largely predominates. Thus, of 19 committed to Belfast jail, no less than 13 were certified by the medical officer to have been insane on the subject of religion, and the remaining six might perhaps be traced to a similar cause.

#### THE MALE FERN IN SNAKE-BITES.

We learn from the *Journal of the Society of Arts* that a public trial has been made in Melbourne of the value of an antidote for snake-bites said to be known to a Mr. Underwood. The experiments were made in the rooms of Messrs. Easy and Co., auctioneers, Collins-street, in the presence of about five hundred spectators. The snakes employed by Mr. Underwood were a whip-snake, about fifteen inches long, and two diamond snakes, one about twenty inches, the other three feet six inches, in length. The larger of the diamond snakes Mr. Underwood provoked till it bit him on the lower part of the forefinger. A rabbit was bit several times by the whip-snake; but neither the rabbit nor Mr. Underwood appeared to be in any way inconvenienced by the bites. The experiments were declared, however, not to have been satisfactory, and the secret of the antidote was not revealed.

In the same journal is inserted the following extract from the *Hobart Town Mercury*:

"According to the *Cornwall Chronicle*, 'the secret so long confined to the heart of Underwood,' in reference to his antidote to the bite of snakes, has at length been discovered, and the common male fern—*polypodium filix mas*—is stated to furnish the remedy. This very common plant has been long known as a specific in

the cure of worms, especially the tape-worm—the powdered root being generally used for this purpose; but from circumstances which have transpired it would appear that Underwood uses a decoction, or broth, of the leaves near the root, as being stronger, perhaps, than those near the apex of the plant. Its power might probably be augmented if used in the form of a tincture; that is, with an ounce of the leaves steeped for a fortnight in a pint of rum or brandy; in which state it could be kept for any length of time, if well corked, without deterioration by fermentation or otherwise."

#### REPORT TO THE BOARD OF WORKS ON LONDON SEWAGE.

Dr. Hofmann and Dr. Frankland have presented an elaborate report to the Metropolitan Board of Works on London sewage, from which we can only offer a brief summary of conclusions. An enormous variety of suggestions were passed in review; they had to consider proposals for disinfection by protosulphate of iron; by superphosphate of magnesia and lime; by galvanic or electric agency; by the manganates and permanganates; by the ferruginous sulphate of alumina; by chlorine; by "the antiseptic hydrochloric acid, liquefied protosulphate of iron, and chloride of sodium combined;" by perchloride of iron; by sulphuric acid; by the abolition of water-closets, and the substitution of boxes containing peat charcoal, (G. Garbert, Esq. ;) by "cendre noire," a pyrito-aluminous lignite, much used by the scavengers of Paris; by "pyritous peat;" by "dosing the river at various points with common salt," (C. N. Gattola, Esq. ;) by carbolate of lime in solution, and the use of a solid mixture of sulphites and carbolates; by the use of scrap iron and subsequent filtration; by the separation of the sewage from the rain fall, by a plan hitherto impossible, but rendered feasible "by the discovery, in November last, of something in the nature of steam, which was hitherto unknown," (Rev. H. Moule ;) by a mixture of sulphate, oleate, and chloride of zinc, and of sulphate of zinc; and by other chemical and mechanical methods, either unexplained or tedious to describe. The trials made by Dr. Hofmann and Dr. Frankland lead them to recommend a concentrated solution of perchloride of lime, to which Mr. Ellerman has called their attention. It is superior to the chloride of lime both in the immediate and permanent effect produced; it is also superior in the rapidity of clarification after the addition of the disinfectant. The cost of disinfection is estimated at a probable sum of about £14,000 per annum. The actual process of deodorization will present less difficulties than the mechanical separation of the deposit by filtration or subsidence. This is a question for engineers. Most undoubtedly the reporters are right in suggesting that enormous operations of this kind should, as far as possible, be conducted at a distance from dense-

ly-populated districts. But, after all, do you really *disinfect* by simply *deodorizing*?

#### CHARLES BELL.

It is well to keep in mind the great achievements of our medical heroes, and to discourse from time to time of the difficulties, the ardor, the struggles, the success, the labors, and the glory of the "mighty dead." The lives of such men as Harvey, Jenner, Bell and Marshall Hall, teach great lessons which are pregnant with impulses to living men. Their names suggest aspiration, and speak of a reward which is higher than mere contemporary popularity or success. The reminiscence of their fame brings a cordial and inspiring warmth to many a one who still works in obscurity, but hopes to achieve something for science, or for his fellow-men, which may endow him with a like heritage of fame. These names, so glorious to their country and their calling, cannot, then, be too often mentioned with due honor and discreet laudation. An excellent account of the life and labors of Sir Charles Bell, published in Paris, from the pen of M. Amedée Pichot, records the simple and ennobling story of his progress from the position of a struggling lad in a cold and strange capital, to that of the first physiologist of his day—the founder of a doctrine which first explained the mysteries of the nervous system in a clear and truthful manner—a man of European repute and lasting fame. The distinction between motor and sensory nerves; the discrimination of the respiratory set of nerves, and their origin by motor and sensory roots: these were the great facts which Bell elucidated with patient labor and philosophic research. His discoveries have laid the foundation for the labors of later observers; and the rapid advance which this half-century has seen in the progress of neurotic anatomy and physiology, dates from the publication of his works. It is gratifying to find the character and greatness of Bell so generously appreciated as in this little work of M. Pichot, written in a foreign country for foreign readers; and we take pleasure in recording this as one of the many instances which science affords of the cosmopolitan sympathies that are inspired by those whose time is given to studies that aim at the enlightenment and the welfare of man. Men whose labors are undertaken for the benefit of mankind without reference to race, are justly rewarded by a fame which transcends the limits of nationality.

#### A NEW MILITARY HOSPITAL: HOW SHALL IT BE BUILT?

It has at length been determined to build a new garrison hospital for 650 beds at Woolwich. The construction of military hospitals has been so freely discussed of late, that it is to be hoped that the grievous blunders which have so often been committed in the choice of site, in the model of the building, in arrangement and ven-



tilation, in almost every conceivable part of general design and detail, will be avoided in the present instance. The loss, the inconvenience, the delay, and the bitterness of feeling, consequent upon precipitation and perverseness in the case of the Netley Hospital, the latest of these erections, must be fresh in the public mind. The objections urged against that immense and costly pile were not publicly and strongly urged until large sums of money had already been expended, and the loss seemed to be pretty equally balanced whether it was decided to remedy the faults or to continue the original plan. There is now time for those who have well considered the details of the subject to express their views. The admirable suggestions of Miss Nightingale should not be forgotten at Woolwich. The first question to be decided is that of site, and, as there is a choice of several pieces of ground, it may be hoped that those who have the direction of this project will carefully consider the necessity for choosing that which is least open to objection. In calling the attention of the profession to this proposed hospital, we desire to elicit the suggestions of those who may be qualified to afford aid in the selection, and who might not otherwise find authoritative channels for the expression of an opinion.

### Reviews and Notices of Books.

*Peaks, Passes, and Glaciers. A Series of Excursions by Members of the Alpine Club.* Edited by JOHN BALL, M.R.I.A., F.L.S., President of the Alpine Club. Second edition. pp. 250. London: Longman and Co.

We scarcely wonder that this record of adventures amongst the snowy regions of the Alps by a dozen highly-educated men should have become so popular as to necessitate the issue of a second edition within a few months, notwithstanding that the book costs a guinea. There are several reasons for the favor with which the work has been received. In the first place, amongst the various foreign visitors of Switzerland, there are none to whom expeditions in the "high Alps" are so attractive as to our own countrymen, who have at length acquired as much skill in overcoming their difficulties as have the native guides.

"The powers thus acquired have been chiefly directed to accomplishing ascent of the highest summits, or effecting passes across the less accessible portions of the Alpine chain; and within the last five years the highest peaks of Monte Rosa, the Dom, the Great Combin, the Allenhorn, the Wetterhorn proper, and several other peaks never before scaled, have been successfully attacked by travellers, most of whose names will be found amongst the contributors to this volume."—p. vii.

In the second place, since the publication of the various papers and memoirs of Forbes, Agassiz, and Studor, upon the "Theory of Glaciers," a scientific interest has engaged another class besides mere adventurers in—not only exploring, but carefully studying, the mountainous and snowy passes of the Alpine chain. A third reason for the success of the work before us is its excellence as a guide-book for prospective travellers. It contains nine maps, taken in part from the best existing authorities, and especially from the Swiss Federal Map, and from Studor's "Karte der Südlichen Wallisthåler." Amongst them is quite a new map of the Mont Blanc range, which has been supervised by the "accurate and local knowledge of the well-known and respected Auguste Balmat, of Chamouni, now on a visit in this country." There are also eight very characteristic chromo-lithographs, and twenty-four woodcuts. The collection likewise contains a capital essay by Mr. Ball, entitled "Suggestions for Alpine Travellers;" and a valuable table of the heights of the chief mountains in the chain of the Alps. The memoir by Mr. Ramsay upon "The Old Glaciers of Switzerland and Wales," and the short notes of the Editor to each chapter, upon the botany, geography, &c., of the district under review, combine to give a permanent and scientific value to the undertaking, which has greatly helped to increase the reputation of the book. But we must confess that, with all the interest attaching to it, we got tired of the *sameness* attendant upon each record of mountain ascent. Only change the names and a few unimportant details, and the main features are similar: the same difficulties, the same way of overcoming them, the same guides, the same crevasses, the same ropes, the same poles, &c.: it is exactly the same thing over and over again. This drawback, no doubt, is inseparable from the undertaking, and with all its charms, we hence fear some persons may commence devouring with great vigor, "Peaks, Passes, and Glaciers," but find before they are half through that they have had more than enough. On the whole, however, the book must be regarded as one of the *works* of the day; and we recommend it accordingly, and particularly to those who meditate making, upon some occasion, a trip to Helvetia.

*The Sense [of Vision?] Denied and Lost.* By THOMAS BULL, M.D., &c. Edited by the Rev. B. J. JOHNS, Chaplain to the Blind Asylum, St. George's-fields. pp. 214. London: Longman and Co.

We have perused this little book with painful interest. Some ten or a dozen years ago Dr. Bull was known as a popular physician residing in Finsbury-square, and as the author of two little works of some repute in their way—viz., "Hints to Mothers," and "Hints on the Management of Children." He became blind

and continued so for eight years, when death released him from suffering. The account of the gradual decay of his vision is very touching.

"It is now," he says, "about ten years since that I perceived my sight grow dim, and at the same time my spirits became faint. Even when I sat down in the morning to read, my eyes gave me considerable pain, and refused their office till fortified by moderate exercise of body."

"His trial—a sharp one—he bore nobly and bravely as being the ordinance of One who was wiser and more gracious than himself. It is true that he escaped many trials which often fall to the lot of the blind. He had kind and numerous friends, he had the warmest sympathy, but, above all, he had the deep love of an affectionate wife, which lasted through his long hours of darkness, and still survives. Still he had, as every blind man has, much to bear."—p. ix.

The cause of Dr. Bull's blindness is thus alluded to by his affectionate wife :—

"Many years of professional toil told upon a naturally excitable and energetic mind. The framework gave way, and an over-worked brain induced total loss of sight, and almost total loss of limb. To the bereavement of his eyesight his devoted use of the microscope had, doubtless, contributed. Sand was brought to him from all parts of the world; this he searched, and often discovered and 'put up' for inspection many of the most minute and beautiful shells."—p. xvi.

We would draw the attention of some of our zealous microscopists who work much by artificial light to the above statement. The present forms an agreeable companion volume to one by its editor, the Rev. B. G. Johns—"The Land of Silence, and the Land of Darkness," which was noticed by us some months since in the pages of this journal.

*The Indian Annals of Medical Science; or, Half-Yearly Journal of Practical Medicine and Surgery.* No. XI., January, 1859. Calcutta and London: Lepage.

Our Calcutta contemporary opens with a paper upon "Rheumatism and Allied Diseases," as they appear in India. Dr. Gordon, the author, very truly observes, that there is no class of diseases that can be so easily simulated by the designing soldier as "pains;" and although, as a rule, there is now little scheming in a regiment compared with what used to be the case under the Unlimited Service Act, yet there are in every corps to be found men who, to avoid punishment or escape duty, will feign to labor under what is intended to represent some kind or other of rheumatic pain. The difficulty connected with the differential diagnosis between

the true and simulated disorder is occasionally so great that the man suffering in reality from some affection of the class will sometimes be ordered back to duty, while the more fortunate pretender gets admission into hospital.

"There is another circumstance connected with what the soldiers always designate as the "pains," which deserves careful attention, and it is this: some commanding officers are, unfortunately, to be met with who show no consideration whatever for the health and comfort of the soldiers. Their drills are tedious, severe, and of unnecessary frequency; they show no more indulgence on parade to the old soldier of fifteen years' service and upwards than they do to the young, healthy, athletic man who is but just dismissed his drill. It matters not that the one has been much, if not all, of the period of his service in unhealthy climates—that his physical energies are much impaired by mere wear and tear of military duty—that he is weak and cachectic from frequent recurrence of fever, liver disease, or dysentery, or that the activity of youth and early manhood is destroyed forever by repeated attacks of rheumatism. The commanding officer of the class alluded to insists upon his gait being upright and his movements as agile as if he were still hale and well as when he left his native glens."—p. 3.

We may likewise call attention to the paper, by Mr. Day, upon "Tropical Fevers," and to the continuation of Dr. Norman Chevers' "Review of the Means of Preserving the Health of European Soldiers in India."

*Transactions of the Medical and Physical Society of Bombay.* No. IV., New Series. For the years 1857 and 1858. Bombay, 1859.

The major portion of the present number consists of "Medico-Topographical Reports" of different districts of the Bombay Presidency, and of "Annual Reports of Regiments." The more important of the special subjects which receive attention are—"Coup de Soleil," "Snake Bites," and "Aden Ulcers."

*On Hallucinations; a History and Explanation of Apparitions, Visions, Dreams, Ecstasy, Magnetism, and Somnambulism.* By A. BRIERRE DE BOISMONT, M. D., &c. Translated from the French, by ROBERT T. HULME, F.L.S., &c. London: Renshaw.

There are few subjects on which a concise manual was more needed than the one taken up by Dr. de Boismont. Had this gentleman, therefore, done no more than collect together the many very interesting cases which are scattered through his volume, he would deserve our thanks; but when we find these examples connected together by an explanatory narrative of

gradually increasing interest, we think that he merits high praise for his arduous labors. Still there is a great fault in the original which we are glad to find wanting in the translation—viz., a most wearisome repetition of deductions and hypotheses, and the extension of a simple fact, which might be clearly expressed in a brief sentence, into a series of long prolix paragraphs. So admirably, indeed, has Mr. Hulme seized upon all the important points, and condensed, without obscuring, the meaning of his author, that the translation is much more agreeable to read than the original; and will, we fancy, prove much more instructive, since in perusing it the reader's attention is not distracted by numerous tiresome and irrelevant digressions.

Dr. de Boismont separates hallucinations into ten divisions. This classification, although elaborate, is still requisite to a clear comprehension of the subject. The *first division* contains those hallucinations which co-exist with a sound state of mind. The facts adduced serve to prove that the reproduction of the cerebral images may take place without derangement of the intellect; and they serve to explain the hallucinations of those illustrious men who have been erroneously charged with insanity. The *second section* comprises simple hallucinations, but which are associated with a greater or less amount of mental derangement. The sufferers are convinced that they see, hear, smell, taste, or touch things which are imperceptible to others. It is remarkable that these false impressions may exist even where the organs of some of the special senses are defective. Thus the blind will say that he has seen angels and devils; the deaf will repeat conversations which they profess to have overheard, and so on. In the *third class* we find those hallucinations which are associated with another effect of the senses, to which the name of illusions has been given. In the simple hallucination there is a vision without the presence of any material object to produce it; while in the illusion the object exists, but it produces an impression different from the reality; as, for example, a man assumes the appearance of a demon, a block of wood becomes a hideous monster. Illusions occasionally appear as a sort of epidemic, as history teaches us. Not unfrequently, also, they are accompanied by the performance of reprehensible or dangerous actions. The *fourth division* contains those hallucinations which are combined with monomania and other forms of insanity; while such as show themselves in delirium tremens, and in the phrenzy from narcotic poisons are described in the *fifth section*. In the *sixth class* are those which are complicated with catalepsy, epilepsy, hysteria, hypochondriasis, &c.; in the *seventh* are the hallucinations of nightmare and dreams; in the *eighth*, those occurring in the condition known as ecstasy; in the *ninth*, the hallucinations complicated with fevers, and other acute and chronic diseases; whilst in the *tenth section* we find associated the epidemic hallucina-

tions and illusions which have been already referred to. Lastly, the subject of hallucinations in their relation to our civil and criminal institutions is fully examined; and it is shown by numerous examples that the hallucinated may, under the influence of their false impressions, commit dangerous and even criminal acts.

From this rough outline it may be seen that the author has spared no pains in examining his subject from every point of view, and the result is a very useful volume. Dr. de Boismont evidently desires to show that in all instances of hallucination there exists some physical cause for the phenomena; that there is some change in the system which the physician is only prevented from detecting by the imperfections of his science. At present it is impossible anatomically to refer to the source or centre of the disease, either by a consideration of the symptoms during life, or by a careful examination of the organs after death. But it is a step in advance to know clearly the extent of our ignorance; and if the Doctor's treatise does not throw much new light on the pathology or treatment of hallucinations, it at least teaches us in what direction our future investigations must be directed. We understand that two large editions have been sold in Paris, and we trust that Dr. de Boismont will have no small number of readers in this country.

*Medical Sketches in Austria, Prussia, and Italy.* By JAMES G. HILDIGE, F.R.C.S.I., L.K. & Q.O.P.I., M.R.I.A., Surgeon to the North City Eye Dispensary, &c. &c. pp. 86. Dublin: Fannin and Co. 1859.

Here is a little work very likely to attract the attention of those who intend to make themselves acquainted with the practice of medicine in Germany; and also of such inquirers as are curious to know how the teaching of the different branches of our science is conducted in the country just mentioned and a portion of Italy. To do justice to such a vast subject would have required a goodly volume; but the Sketches before us, though not, from their nature, very comprehensive, will afford a great deal of information.

The book commences with a description of the rise and progress of the University of Vienna. Amongst other statements, the author says—"The reputation of the Vienna medical school has continued increasing up to the present day, and it is now perhaps the first in Europe for the study of every branch of medical science, with the exception of surgery (operative), as Berlin offers in this respect much greater advantages." (p. 14.)

A very minute account is then given of the routine of the bed-side and lecture-room instruction. With respect to the latter, we were rather surprised at the following fact:—"Professor Rokitansky lectures from half-past ten to half-past eleven A. M., but (strange as it may seem)

seldom more than four or five students are present, and these generally foreigners." Oppolzer, Skoda, and Hebra are in turn critically examined: and, talking of "*plica polonica*," the author says that Hebra has made a large collection of the compact masses of hair shaven off; one amongst these, that had belonged to a *Polish princess*, "containing several pieces of money and a *key*, which had been considered lost by the owner."

The eye clinique at Vienna is, by the author, considered of the highest order; and he mentions several well-known oculists of this country who have taken advantage of it. Jäger gave it celebrity, which is kept up by his son. Professor Arlt's teachings on ophthalmology is, according to Dr. Hildige, the best in Europe. Then comes Professor Sigmund, who is a very successful teacher on syphilis; and we have a description of the arrangements in the midwifery department, which seem highly conducive to making the students expert practitioners.

We regret to see the author writing "*matrophlebitis*," when on puerperal affections; nor can we pass over his too frequent use of the word *process* of disease, which is German and not English.

The hospital of Vienna contains a number of *vie-houses*: this might be imitated here; but we should vehemently protest against the hospitals of quacks receiving grants from the Government in this country, as is the case in Vienna.

The author conducts the reader successively to the medical schools of Prague, Pesth, Padua, Pavia, Milan, Rome, and then passes on to Prussia, where, in speaking of Hufeland, he mentions the *Macrobratik*, which, with an *e* and *a*, looks as if—half Greek and half Latin—it meant "*long happiness*:" whilst with the proper *i* and *o*, it is intended to mean "*long life*," or at least the "*science of prolonging life*." A minute account is given of the teaching in Berlin, of Virchow, Langenbeck, and Gräfe. In treating of the nephew of the latter, a work of his is mentioned, on "*Muscle Insufficiency*"—a term hardly understood here. From Berlin, the author passes on to Breslau: he is, however, in error when he believes that no surgeon but Middendorpf, of Breslau, uses the platinum wire heated by electricity.

The reader will, altogether, find in this little book a great deal of very useful information respecting the medical schools of Germany; and the work will prove an extremely interesting companion for our young travelling friends at this season of the year.

*Traité de Physiologie.* Par F. A. LONGET. Vol. I., Fascio. II. Paris: Victor Masson. April, 1858.

This is part of the reissue of M. Longet's justly celebrated Treatise. In this second edition the whole of the first volume is, in fact, only

a reprint of the first edition. It does not need, therefore, more than the simple announcement of its appearance, since its high merits have already been fully appreciated. The second volume, on the other hand, will be printed anew, and will include all the changes and additions which the process of science can demand.

*Clinical Lectures on the Principles and Practice of Medicine.* By JOHN HUGHES BENNETT, M.D., F.R.S.E., Professor of the Institute of Medicine, and Senior Professor of Clinical Medicine in the University of Edinburgh, &c. &c. Third Edition, with 500 Illustrations on Wood. pp. 1005. Edinburgh; Adam and Charles Black.

Just twelve months have elapsed since we reviewed at some length the admirable volume of which we have now before us a new edition. We accepted the opportunity on that occasion of pointing out some of the valuable qualities of the author as a teacher of clinical medicine, and we affirmed of his book that it was one of the most important professional publications of the day. Our judgment has been well ratified; for the former edition became exhausted within the year, and the author has been called upon to prepare a new issue much sooner than the most sanguine anticipations could have looked for. Here it is, and even with improvements. The whole of the work has been carefully revised, and the volume has been extended by the addition of fifty pages, of twenty cases, and of thirty-four new woodcuts. In his preface, Dr. Bennett thus expresses himself:

"I am still, however, deeply sensible of the many imperfections with which this work is chargeable, and for which I must solicit the kind indulgence of my medical brethren. To exemplify the entire subject of practical medicine by means of cases in a work of moderate compass is obviously impossible; but sufficient examples, I trust, have been given to illustrate the more important modifications which the advanced state of diagnosis and pathology has effected in the treatment of diseases. The flattering manner in which it has been received by the profession, and noticed by the press, confirm the conviction I formerly ventured to state—viz. that such modifications will be shown by further experience to be, not merely temporary changes, but permanent improvements in the practice of the art."

Few books have of late issued from the press, in which a combination of the most advanced or even recondite morbid anatomy and pathology, along with pure practical medicine, is to be found more clearly and happily worked out than in these "*Clinical Lectures*" of Dr. Bennett. In some sense, too, their collection forms an encyclopædia of modern scientific medicine to which the student and busy practitioner can refer with the certainty of being made acquainted with the latest researches of the day.

*Occasional Papers on the Theory of Glaciers.* Now first collected and chronologically arranged, with a Prefatory Note on the recent Progress and present Aspect of the Theory. By James D. Forbes, D.O.L., F.R.S.; Corresponding Member of the Royal Institute of France, and Professor of Natural Philosophy in the University of Edinburgh. A. and C. Black.

"Glacier" is a name which is given to a mass of ice which descends from snowy mountains into the adjacent valleys, where it attains a level often far below the upper limit of the surrounding vegetation. In Great Britain, as no mountain fully attains the height of the snow line, there are no glaciers; but patches of snow, with a more or less icy structure, remain through the summer in the clefts of some of the Scottish hills. It is the opinion of the author, however, that geological appearances strongly indicate the former existence of glaciers in Scotland and Wales. The characteristic appearances of a glacier can be nowhere better studied than in Switzerland and Savoy; but they are to be found in almost all the chief divisions of the globe, from Spitzbergen to the Himalayas. In 1842 Professor Forbes visited the Mer de Glace of Chamouni, to determine by a series of experiments the laws of its motion. From thence he addressed a series of letters to Prof. Jamieson, which contained the original draft of the "Plastic or Viscous Theory" of the formation of glaciers. This theory was afterwards expounded in a more methodical and detailed manner in a work entitled "Travels in the Alps." In 1846 this theory was clearly stated in "A Thirteenth Letter on Glaciers," in the following terms:—

"All the phases of a consolidation of a glacier are due to the effects of time and cohesion alone, acting on a substance softened by the imminent approach of the thawing state, in opposition to the belief which I formerly, in common with most persons, entertained,—that snow could not pass into pellucid ice without being first melted and then frozen. Friction and pressure alone I affirmed to effect the change, especially in the glacier which during a great part of the year is kept on the very border of thawing by the ice-cold water which infiltrates it. In this condition molecular attachment I stated to be comparatively easy, the opacity disappearing as optical contact is attained. The 'glacification' of the *névé* takes place by the kneading or working of the parts under intense pressure, and the multitudinous incipient fissures are reunited by the simple effects of time and cohesion."

Professor Forbes' "Theory of Glaciers" was thought well of by a few, keenly criticized and opposed by many, and neglected by more. In 1850 Mr. Faraday delivered a lecture at the Royal Institution on certain properties of water, and more especially of water in the act of freezing. He showed, amongst other things, that if a film of water be enclosed between two plates

of ice, even at a thawing temperature, the film of water is frozen and the plates of ice cohere; and also that damp snow becomes by the same process compacted into a snowball, which will not occur if the snow be dry and hard frozen.

"These facts appear to have excited little notice until attention was called to them by Dr. Tyndall in a lecture also delivered at the Royal Institution on the 23rd of January, 1857. He gave to the phenomenon the name of *regelation*. He applied it to explain the observation that portions of ice crushed in a mould under Bramah's press may assume new and compact forms without showing any trace of flaws: this he attributed to the 'regelation' of the water in the crevices. . . . Dr. Tyndall soon applied his experiments on the consolidation or moulding of ice, and his adaptation to them of Mr. Faraday's fact of 'regelation,' to the explanation of the veined structure and movement of glaciers. . . . Thus it will be seen how the theory of glaciers became anew, in 1857, a matter of attention to men of science. . . . All these results of the discriminating study of the familiar substance of ice near 32°—the deduction of M. Person, the fact of Mr. Faraday, the experiment of Dr. Tyndall, the prediction of Mr. James Thomson, and its verification by his brother—instead of militating against the correctness of my theory of glaciers of 1842, seem to me to afford so many independent confirmations of it." (Prefatory note *passim*.)

Hence the idea was suggested to the eminent philosopher of the North to publish a literal reprint of those minor writings in which from time to time he had endeavored, first to expound the "plastic theory," and afterwards to defend it,—the larger and more correct views which may now be taken of the entire subject not by any means rendering valueless the generalization which was made with the full advantage of the recent investigations we have before alluded to. A *critique* of the "theory of glaciers" in these pages is of course out of the question; all we can further do is to recommend the perusal and study of the highly interesting collection of papers contained in Professor Forbes' volume.

*Beeton's Dictionary of Universal Information; comprising Geography, History, Biography, Mythology, Bible Knowledge, a Chronological Record, and the Correct Pronunciation of every Proper Name.* Edited and Compiled by S. O. BEETON and JOHN SHERER. 8vo, in Monthly Parts. London: Beeton, Bouverie-street.

We have carefully looked over the parts of this work, Nos. 1 to 6 inclusive, already issued, and consider that they fairly demand a notice in this place. The leisure of medical practitioners is so circumscribed that they have generally no time to wade for information into long

treatises, or even to seek for what they require to know on special points in long articles in encyclopædias. Any work, therefore, which will supply what they need in a brief compass is to them a valuable boon. So far as general information goes, which is apt to get very rusty during the fatigues and incessant occupation of a laborious professional life, the book before us is just the one adapted to be pre-eminently useful as one of reference. The articles in it are short but pithy; and, so far as we have seen, they appear to comprise in a few words all that is necessary for the general inquirer to retain in memory. We might particularize those on Abd-el-Kader, Abernethy, Addison, Æsculapius, Agra (which contains a most excellent summary of the causes and progress of the late Indian revolt), Arnold (the celebrated head master of Rugby School), Bacchus, Bacon, &c., as favorable specimens. The true pronunciation is given after each name. Many wood engravings are scattered through the work; and in each number is a map, or some other useful sheet. The exceedingly low price of this Dictionary is an additional reason for its obtaining very general encouragement. It is really a remarkable work.

*Letters on Modern Agriculture.* By BARON VON LIEBIG. Edited by JOHN BLYTH, M. D., Professor of Chemistry, Queen's College, Cork. pp. 284. London: Walton and Maberly.

No man who wishes to understand the theory of agriculture, as it has been elaborated by modern science, should be unacquainted with the valuable researches of Liebig on this important subject. The wealth and material prosperity of a nation depend more on the production of the soil than on any other single cause. The views of the great chemist of Giessen have been already more than once expounded in the columns of this journal. Our readers are doubtless familiar with the preference which he so strongly entertains for mineral as contrasted with organic manures. These views are given at length in the work before us. As a translation, the performance is perfect, and the printing and getting-up are a credit to the publishers.

*Notes on the Wounded from the Mutiny in India, with a Description of the Preparations of Gun-shot Injuries contained in the Museum of Fort Pitt.* By GEORGE WILLIAMSON, M.D., Staff-Surgeon. pp. 124. London: Churchill.

This is a reprint of Dr. Williamson's papers in the May and August numbers of the *Dublin Quarterly Journal*, and affords us some interesting information respecting the wounded survivors of the Indian war. Of course Dr. Williamson can give no statistics of the whole of the wounded, but merely notices those who survived long enough to reach their native shores, and so to come under his care at Chatham. The total

number which arrived was 603, and of these, 193 have been sent to duty, 67 to modified duty, 263 have been invalidated, 7 died, and 73 still remain under medical care.

From a tabular statement of all the injuries, under their different heads, we gather some interesting data—*e. g.*, out of eight cases of gun-shot injury to the head, with depression or displacement of both tables, there was only one fatal case; and it is remarked specially by the author, how rapidly and thoroughly the wounds (from which large pieces of bone were removed) cicatrized over, so that the strong fibrous tissue thus produced, formed an excellent substitute for the original calvaria, (not calvarium as it is spelt throughout the book.) Again, out of nine cases of wound of the chest, with perforation of the contents, there was but one death, and that from gangrene of the uninjured lung, eleven months after the receipt of the injury. In one of the cases of recovery, not only the lung, but the œsophagus also, was wounded. There were two cases of wounds of the intestine, and both recovered.

In the table of capital operations we find the following amputations;—Shoulder-joint, 6; arm, 46, (one death from gangrene;) forearm, 19: thigh—upper third, 1, middle third, 10, (one death from necrosis;) leg, 18. Total of *all* amputations, 258, and only two deaths. Only three cases of excision of joints are recorded—one of the shoulder and two of the elbow, in none of which are the results as respects usefulness very satisfactory.

We have thus to thank the author for much interesting information, which is interspersed with collateral cases and sketches from the Fort Pitt Museum; but we are surprised to find how little certainty there appears to be respecting the early treatment of many of the cases, and the entire forgetfulness of the medical officers under whose care the cases were at first placed. In all cases of *secondary* operation Staff-Surgeon Williamson is duly recorded as the operator, but no single one of the Lucknow heroes is mentioned as having performed one of the many successful *primary* operations here recorded. Again, in a record of wound and gun-shot injuries, we hardly expected to find, at great length and with illustrations, cases, by the author, of necrosis of the ulna and calculus vesicæ around piece of cane—very interesting no doubt, in themselves, but obviously inappropriate in their present position. At the end of the book are some valuable remarks upon the "dooley" as a means of conveyance for wounded men, which we would commend to the notice of our army authorities.

*Oratio ex Harveii Instituto, in Œdibus Collegii Regalis Medicorum. Londinensis: Habita de 29 Junii, 1859. Auctore C. J. B. ALDIS, M.D., M.A.*

This is unquestionably an elegant oration, written, as delivered, in good Latin, and printed on good paper, in an orthodox quarto form.

But why is it delivered, written, and printed in Latin at all? If it were not worse, it is some thing puerile, that a body of learned men should meet together to hear words and ideas expressed in a language which is not their own, and the sense of which, with all their erudition, must not only be, much less easily caught in delivery, but must also be much more feeble to express sentiments or embody reasoning adapted to the intellects of the present day. But it is in reality worse than puerile: it is a symbol of weak clinging to usages "more honored in the breach than in the observance." Year after year men assist each other in the solemn farce of professing to be delighted with hearing expressed in a dead language that which would be much more readily appreciated, and withal more sparkling, if presented to them in their vernacular tongue. Because it has been the custom to go the roundabout way of having the Harveian Oration delivered in Latin, that same custom must, forsooth, be still continued; and the melancholy spectacle is annually exhibited of a learned body, which ought to show itself in every act and deed in advance of the civilization of the times amusing itself with the childish and pedantic gratification of playing with the syllables which formed a part of the long-past labors of schoolboy days.

As long as science was confined to the cloister, or even, in later times, when it had emerged from that jealous sanctuary, and was to be found glimmering in the secular colleges and public schools where it has since found so congenial a home, it was well enough for it to employ a language which was common to the learned throughout the civilized world. But times have changed; and we will not stop to express the fact in the hacknied phrase belonging to the same language in which the Oration (to which we mean no disrespect) is written. The learned of Europe are now no longer obliged to address each other in Latin as the only medium for the conveyance of their thoughts. The chief modern languages—say, French, English, Italian, German, and, in a less degree, a few others—are pretty well understood by the *litterati* of all nations; at least, as well as Latin, and it is no hyperbole to say that the scientific books written in modern languages—since the time of Bacon, to go no further back—in their aggregate outweigh in value all the scientific productions of the ancients and the middle age writers. Why, then, should science clothe herself in the threadbare and meagre garments of the past? Terms, and a style of thought unknown to old writers, and, therefore, untranslatable, characterize the advancements of modern science; and, consequently, when we assume the use of a dead language to give utterance to what concerns the living world, we are placing over the light which we have acquired a deadening extinguisher. Nor does the evil stop here. The very expressions used in Latin would be deemed insulting to the hearers if literally translated

into the vernacular tongue. "*Hanc Oratiunculam*" implies an excess of modesty little adapted to characterize a pompous oration written with care and labor, and considered worthy to be recited before some of the most distinguished philosophers of our time; but *Præses Clarissime! Socii Doctissimi! atque Auditores Illustrissimi!* If delivered orally in English, would make the audience believe either that the orator was laughing at them, or that he was the most servile of mankind. How different from the honest Saxon opening of an address to an assemblage of which the speaker is a member as good as the rest—viz., "Mr. President, Members, and visitors!"

So much unfitness of a dead language to express the requirements of our age been felt in modern days on the continent, that in France prescriptions have long been written almost wholly in French—a very wise adoption, since there is less likelihood of a mistake. Even in our own country, where the *bienstances* of society are not so soon tacitly appreciated, medical practitioners, if they for certain reasons name the drugs of which their prescriptions are composed in the Latin tongue, have begun to write the directions for their administration in our own language, and we commend the usage.

Compare the dullness of the scene when the Harveian Oration is delivered with the lively interest afforded by the Hunterian Oration! Whence originates the difference, but in the vehicle through which the sentiments are conveyed? But the evil of dullness is not the worst drawback. The adherence to a form of speech in full vogue two thousand years ago, is a symbol and a sign. So long as the Royal College of Physicians adhere to the absurd system of hearing an oration in praise of Harvey delivered in a language which is not his own and is not theirs, so long they are rattling dead bones, and proving that they do not put themselves at the head of the *living* intelligence of the age. The habitual mind of a man is commonly known by the language to which he gives utterance. The College of Physicians of London ought to put themselves at the head of medical advancement in this country. This they can never do, nor will they ever gain the *prestige* of being believed to desire it, until they abandon fusty Latin for honest, hearty, Saxon, vernacular English.

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*The Dental Cosmos: a Monthly Record of Dental Science.* Edited by J. D. WHITE, M. D., J. H. McQUILLEN, and G. ZIEGLER, M. D. New Series, Vol. I., No. I. Philadelphia: Jones and White.

If there be anything which has truly astonished us, it is the soaring title of this magazine: the "*Dental Cosmos*" is a term approaching sublimity so nearly as to be fairly transcendental. Who would suppose that the journal with such an exalted name were merely "a new series" of one which had the prosaic designa-



tion of the "*Dental News Letter*?" But so it is, and its contents appear to be very like what were probably those of its predecessor, notwithstanding that the prose of the designation has been transmogrified into the most high-sounding poetry of science. In fact, we are told at p. 21, that "although changed in name, it still breathes the same spirit, and is moved by the same life-spring." But we are also told in the introductory address, that

"It will very fairly cover the dentist's *world* of science and practice—it will be *universal* in the range of its accommodated application; and it will be *orderly* and *systematic* through all its comprehensiveness. The meaning of the title is exactly the intention of the publishers. Both the title, and the intention would be too limited if they had less scope."

We should *à priori* have expected that a "dental cosmos" would have enlightened us by learned geological disquisitions, perhaps informing us of the age of the world from the teeth found in its *alveoli*, or caverns; or else that we should have it pointed out to us metaphorically how the teeth of time, that *edax rerum*, destroy everything in the universe sooner or later. No such thing: old Saturn and his "Cosmos" have little or nothing to do with these pages, which treat of modern human grinders, sound and unsound: giving practical hints how to keep our teeth when we have them, replace them with something else when we have not, and remedy the ills that arise from their presence or absence. We have no particular fault to find with the contents of the journal, which are much the same as would be put forth by dentists or *soi-distant* "surgeon"-dentists, and other writers in our own country—from whom, by the way, many of the articles are copied. That which is chiefly to be objected to is the very inappropriate title. "What's in a name?" asks Shakspeare. Much, if it smacks of bombast.

*The Work and the Counterwork; or, the Religious Revival in Belfast, with an Explanation of the Physical Phenomena.* By EDWARD A. STOPFORD, Archdeacon of Meath. Dublin: Hodges, Smith, and Co.

This treatise, which has been specially sent to us for comment, is a matter on which we decline to enter fully, as it is of too metaphysical a nature to demand extensive consideration in a strictly medical journal. We may state, however, that the able and impartial author fully believes that much of the physical movement lately prevalent in the north of Ireland is due to hysteria, and to a great and culpable encouragement of the manifestations of that affection. We shall quote three passages literally, and with those our notice of the very complicated and mysterious subject must, at this time, terminate,

"I believe that if any case of hysteria were now to arise in Belfast from any irritation actual

or reflex, of the brain, or from any functional derangement, wholly apart from religious excitement, it would at once assume the form of trouble on account of sin; and I also believe that in such a case, upon recovery, no trace or consequence of godly sorrow for sin would remain."

"In the interest of science and religion alike, it is much to be wished that these 'cases' were more often subjected to medical examination. There is, unfortunately, a universal desire in Belfast to exclude the physician from such cases; a desire, perhaps, too readily acquiesced in."

"I heartily wish also that the medical instruction necessary for the clergy on this subject should be afforded to them by members of the medical profession, who alone are truly competent to give it."

We may, however, remark, and that not in any jocular spirit, that whether the whole movement be genuine or not, it appears to have produced a real moral effect. As an instance of this, a country paper supplies what it calls—

"A GOOD TEST—'What do ye think o' this revival, Jemmy?' asked a skeptical Scotchman of his friend. 'Wall, I dinna ken what to say of it,' replied the party addressed; 'but one thing I know; I ha' got a great many baubies which I gied up as bad debts.'"

*Contributions to Midwifery and Diseases of Women and Children; with a Report on the Progress of Obstetrics and Uterine and Infantile Pathology in 1859.* By E. NOEGGERATH, M.D., and A. JACOBI, M.D. New York.

This volume consists chiefly of various papers and reports which have been contributed to the *New York Journal of Medicine*. As this periodical is accessible to all students of medical literature, we are unable to understand why Drs. Noeggerath and Jacobi should have taken the trouble to reprint their papers, more especially as the articles themselves are of a very meagre and common-place character. Regarded as a work of reference, the volume is almost useless, owing to the absence of an index.

*On the Classification and Geographical Distribution of the Mammalia; to which is added an Appendix on the Gorilla, and on the Extinction and Transmutation of Species.* By RICHARD OWEN, F.R.S. Foreign Member of the Institute of France, &c. &c. pp. 103. London: Parker.

The first of these admirable memoirs constitutes the lecture delivered before the University of Cambridge (May 10th, 1859) by the author, as the lecturer on Sir Robert Reade's foundation. Professor Owen is the first who has been appointed to this office since the revival of the ancient foundation in question. In Reviewing for the choice of his subject the field of

natural science in which he was a laborer, Professor Owen made selection of this particular topic, as it appeared one that might be treated of with a certain degree of completeness in a single discourse, at the same time that it would relate to some of the more recent generalizations in natural history. Independently of these advantages, however, the "lecture" well exemplifies the applicability of this department of knowledge as a discipline to the improvement of the intellect, and especially as a sharpener of the faculties of observation and of methodical arrangement. The particular teachings of the essay before us may be inferred from the following:—

"In 1842, I was able to demonstrate, in the 'Hunterian Course of Lectures,' delivered at the Royal College of Surgeons, the leading modifications of the mammalian brain, and their peculiar value in classification by reason of their association with current modifications of other systems of organs. . . . At length, having dissected the brain in one species, at least, of almost every genus or natural family of the mammalian class, I felt myself in a position to submit to the judgment of my fellow-laborers in zoology, at the Linnæan Society, in 1857, the generalized results of such dissections, comprising a fourfold primary division of the mammalia, based upon the four leading modifications of cerebral structure in that class. . . . This first and primary group or sub-class of mammalia is termed, from its cerebral character, *Lyencephala*, signifying the comparatively loose or disconnected state of the cerebral hemispheres. The next well-marked stage in the development of the brain is where the corpus callosum is present, but connects cerebral hemispheres as little advanced in bulk or outward character as in the preceding sub-class; the cerebrum leaving both the olfactory lobes and cerebellum exposed, and being commonly smooth, or with few and simple convulsions in a very small proportion, composed, of the largest members of the group. The mammalia so characterized constitute the sub-class *Lissancephala*. The third leading modification of the mammalian cerebrum is, such an increase in its relative size that it extends over more or less of the cerebellum, and generally more or less over the olfactory lobes. Save in very few exceptional cases of the smaller and inferior forms of *Quadrumana*, the superficies is folded into more or less numerous gyri or convolutions, whence the name *Gyrancephala* which I proposed for the third sub-class of mammalia. In man, the brain presents an ascensive step in development higher and more strongly marked than that by which the preceding sub-class was distinguished from the one below it. Not only do the cerebral hemispheres overlap the olfactory lobes and cerebellum, but they extend in advance of the one, and further back than the other. Their posterior development is so far marked that anthropotomists have assigned to that part the character

and name of a 'third lobe;' it is peculiar and common to the genus *Homo*. . . . I am led to regard the genus *Homo* as not merely a representative of a distinct order, but of a distinct sub-class of the mammalia, for which I propose the name of *Archencephala*."—p. 23.

We have already in a previous number, done justice to Professor Owen's inquiries into the structure and true zoologic position of that wonderful tailless anthropomorphous ape, the "gorilla." The Appendix A, "On the Extinction of Species," formed a portion of the Fullerian Course of Lectures on Physiology for 1859. The following conclusion of the author is worthy of extract:—

"So far, however, as any general conclusion can be deduced, from the large sum of evidence above referred to and contrasted, it is against the doctrine of the *uniformitarian*. Organic remains, traced from their earliest known graves, are succeeded, one series by another, to the present period, and never reappear when once lost sight of in the ascending search. As well might we expect a living ichthyosaur in the Pacific as a fossil whale in the Lias: the rule governs as strongly in the retrospect as in the prospect. And not only as respects the *vertebrata*, but the sum of the animal species at each successive geological period has been distinct and peculiar to such period. . . . In regard to animal life, and its assigned work on this planet, there have, however, plainly been an ascent and progress in the main."—p. 60.

As in all Professor Owen's writings, the scientific importance and value of the matter included in this volume are equalled by that simplicity and interesting manner of communication which are so highly characteristic of the *greatest* teachers of scientific truths.

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*A Manual of the Sub-Kingdom Protozoa; with a General Introduction on the Principles of Zoology.* By JOSEPH REAY GREENE, B.A., Professor of Natural History in the Queen's College, Cork, &c. pp. 88. London: Longmans.

This is the first of the "Experimental and Natural Science Series," in a new undertaking, called "Galbraith and Haughton's Scientific Manuals."

"The sub-kingdom *Protozoa* includes a number of animal beings of simple organization, many of which have until recently been associated with the lower members of the vegetable kingdom. Hence no good general definition can be given of this sub-kingdom, the several forms which it includes being distinguished from those which are placed in the four remaining zoological departments by chiefly negative characters. In none of the *Protozoa* do we find a nervous system, or organs of sense, and in many of these animals the existence of a distinct alimentary apparatus has yet to be ascertained."

A list of more important memoirs on the *Protozoa* has been appended to the general account of the latter, for the benefit of those who may be desirous of entering on their special study. We suspend our opinion as to the value of this new series of scientific manuals until we have made acquaintance with some more of its numbers.

*The Atlantis: a Register of Literature and Sciences.* Conducted by Members of the Catholic University of Ireland. No. IV. July, 1859. London: Longmans. Dublin: Fowler.

We are glad to announce the appearance of a new part of this half-yearly testimony to the scientific and literary laborers of our Irish-Catholic brethren. Like to the preceding portions, the present number is an interesting *melange* of disquisition, which, in the literary department, embraces Calderon's "Autos Sacramentales," with a translation of the whole of "The Sorceries of Sin;" "The Sybilline Riddle;" "Hieroglyphic Studies;" and "An Essay upon the Date of the Book of Job." Under the division of the Sciences will be found discussions "On the Use of the Sections of the Cone in the Solution of Certain Geometrical Problems;" "On the Thickness of the Earth's Crust;" "The Climatology of Lisbon in Relation to the Qellow Fever Epidemic of 1857;" and "On the Change of Caseine into Albumen, with some Observations on Lactic Fermentation." We wish this knew candidate for favor every success. We presume it is not unlike to obtain it, as we learn that the first number is out of print, and full price is offered by the Dublin publisher for perfect copies returned to him.

### Miscellaneous Correspondence.

"Audi alteram partem."

#### THE CASE OF THOMAS SMETHURST CONVICTED OF THE CRIME OF MURDER.

[LETTER FROM THOS. SMETHURST, WRITTEN BEFORE HIS TRIAL.]

To the Editor of THE LANCET.

[The following letter was sent to us in June, when the writer stood committed to Horse-monger-lane Gaol on a charge of murder. As it was sent to us by himself, and not by his legal advisers, we did not consider it to be prudent to publish it before the trial.—ED. L.]

Sir,—Providence often sends unexpected relief in the time of our utmost need. To this my attention has been suddenly called by an unforeseen communication made to THE LANCET for Saturday, the 28th of May last, by Dr. Letheby, of the London Hospital, touching the tests for arsenic when in solution with chlorate of potash, which seems from its importance to

be of the utmost consequence to me in my critical position.

With the view of eliciting further aid, both *chemical* and *medical*, I request the favor of inserting in your publication a few facts connected with this most distressing affair, so far as the case will admit of out of court.

*The deceased's usual state of health previous to her fatal illness.*—Slight palsy of the head. Could not lie on the right side (uneasy). Constant acidity of stomach. Tongue always furred. Womb complaint of some years' standing (compelled constantly to use injections of nitrate of silver). Hands and feet intensely cold, except when in exercise. Abdomen *always felt hot*, and was *frequently swollen*. Great flatulency existed. A spare feeder; could not drink beer, wine, or spirits, without feeling uneasy in the *head* and *bowels*. Palpitation of the heart after walking quickly or making ascents. Could not eat soups, green vegetables, and many other things, as they produced flatulency. Could not ride in a coach without either feeling sick, or being actually sick. Bowels never right, generally constipated (blood and mucus frequently passing). Had a severe attack of *womb complaint* about five years since, then under Dr. Hoffman, of Margate. Had a severe attack of *bowel complaint* about four years since, at that time under the treatment of Dr. Thompson, of Eastbourne, for *one month* (said by deceased to have been *similar* to her *recent attack*, but without sickness or loss of appetite).

*Deceased's fatal illness.*—Illness commenced on Monday, the 27th of March last, with diarrhoea and feeling weak; bowels acting about three or four times in the day and night for the first three days; slightly uneasy, but 'no actual pain, very little appetite. The next three days, diarrhoea and other symptoms much as before, but vomiting of *bile* now began, probably three or four times in the twenty-four hours, which seemed very much to increase her weakness. Dr. Julius was then called in to attend. Lying on the right side would occasion vomiting; lying on the left side produced violent palpitation of the heart. Tongue much more furred than before the illness, but after the mineral poisons were administered exhibited the beef-steak appearance. The brandy taken, however, about four ounces in the twenty-four hours throughout illness, no doubt played an important feature in the case; neither must the disease itself be forgotten. Lower part of the back (sacrum) tender, and very red from not being able to lie either on the right side or the left side. No appetite whatever during the illness, abdomen frequently swollen; much flatulence existed, but little or no pain. *Never complained of any pain*. Vomiting and diarrhoea continued throughout the illness from three to ten times in the twenty-four hours, but increased when the mineral poisons were taken to *fifteen motions*. Vomiting of stringy mucus was brought up instead. Nausea and retching occasionally con-

tinued throughout the illness after the first week, which, however, always ceased after vomiting. From about the last fortnight to the fatal termination of the case the deceased was in a feverish heat, and could not bear any of the bed-clothes over the upper part of her person, although the nights at that time were very cold, in consequence of the chamber-door remaining always open. About this period there was likewise some *slight* pain over the region of the *cæcum on pressure*. As the disease advanced, the pulse rose from about 85 to 120.

Between the 18th and 29th of April the mineral poisons were prescribed and administered—viz., acetate of lead, bismuth (forty-two grains), nitrate of silver, and sulphate of copper. The sulphate of copper (half a grain) was given on Friday, the 29th of April last, which increased the motions from ten to fifteen times in twenty-four hours; it was consequently suspended. A motion was taken away this morning (Friday) by Dr Julius, at half-past ten A.M., before the sulphate of copper was taken; it was marked "No 1," and examined by Dr. Taylor, who said it neither contained bismuth, ARSENIC, nor ANTIMONY. A second motion, marked "No 2," was taken on Saturday, by Mr. Bird, the day after the copper had been administered, which is said to have contained rather less than a quarter of a grain of arsenic in four ounces, with traces of copper in it. No mention is made here of ANTIMONY by Dr. Taylor.

*Autopsy* (by RICHARD BARWELL, Esq., F.R.C.S., Assistant-Surgeon to Charing-cross Hospital), May 4th, at half-past nine A.M., twenty-two hours after death—Posterior part of the body much engorged by position; arms perfectly flexible; legs rigid; feet turned in and much bent, as though there had been spasm or cramp; back part of the body still warm; abdomen drawn in, and muscles seemed tense; tongue rough, and papillæ prominent; fauces generally white; face emaciated, of a dark, earthy color; body generally emaciated. On removing the calvarium, the dura mater was rather more strongly than usual adherent to the bone; veins at the back of pia mater engorged from position. Brain itself perfectly healthy in grey as in white matter; no change anywhere; the cut end of vessels, on slicing white matter, very evident, and oozing; not even as much serum as usual in ventricles. Right lung engorged posteriorly from position; front pale; throughout crepitant, and perfectly healthy. Left lung: Idem. Heart: Half an ounce of serum in pericardium; no inflammation of that membrane; heart and great vessels perfectly healthy in every respect; right ventricle contained a good deal of fluid blood; some clots in left ventricle. Abdomen: Liver large, pale, firm, fatty, speckled as usual; stomach and colon inflated; vessels of great omentum full. Stomach: Outside red at pyloric end; paler in centre; no aperture; duodenum very red; the small intestines

generally inflated and minutely injected, and in spots roughened and glued by effused lymph, the result of peritonitis; gall-bladder distended. The bladder was empty. Kidneys healthy. Liver, stomach, spleen, intestines, uterus, and appendages were removed, placed in a jar, tied, sealed with six seals, and delivered to Inspector M'Intyre. The uterus and ovaries were examined; the former was enlarged, and walls thickened; its cavity increased in size; contained a deciduous membrane, from which hung cord and foetus, two and a half lines in length; in ovary was Graafian follicle, filled with its coagulum, and surrounded by effused fibrine. The deceased was in from the fifth to the seventh week of pregnancy.

Mr. Barwell's subsequent examination May 5th, 1859, at Guy's Hospital, with Dr. Taylor.—Stomach and intestines: Outside, red at pylorus, greenish in centre; *no aperture*; dark color at cardiac end; duodenum very red; greenish-colored spots; jejunum and ileum reddened; cæcum and large intestines more approaching putrefaction; the peritoneal coat in some spots actually inflamed, with deposit of lymph that glued certain turns of intestine together. Inside stomach: Pale in centre, and towards pylorus corrugated; black at cardiac end from altered blood; contained a yellowish-brown, thickish fluid, with blood; no ulcers, nor appearance of acute inflammation; coats firm. Duodenum: commencement inflamed about three inches from pylorus; coats firm; no ulceration; slightly injected. Jejunum: Mucous membrane firm; in places minutely injected, the arborescent vessels showing remarkably well; the whole membrane rather more injected than normal. Ileum: The same appearance, except that it increased on approaching the lower part, and at last at about three feet from end; the mucous membrane was greatly altered, there being a deposit therein, and thickening; the membrane being at the same time roughened, and the glands less visible. It is remarkable that this change did not begin in the glands, as in cases of fever and dysentery, but on the whole surface. Cæcum: Upon the mucous membrane were many large spots, blackened by effused and altered blood, and many circular and some ragged ulcerations; the membrane extremely soft, (broken down,) and easily separable from muscular coat. Ascending, and transverse and sigmoid flexure of colon: These appearances continued decreasing throughout these viscera, and about middle of transverse arch the mucous membrane became nearly normally firm, but still had black spots and ulcers; so on to rectum, which had been removed within one inch of aperture; in it were three spots of effused blood, and several ulcers. Spleen: Rather pale-pink, and soft.

Through the wild imaginary brain of Dr. Julius, I am suspected and charged with having committed the horrid crime of murder—and that upon the life of one on whom my fondest

affections were placed, and whose life, to me was beyond all consideration : *the grounds alone, that his remedies ought to have arrested, but did not, the running stages of a fatal disease—diarrhœa and vomiting*—arising, no doubt, from long-continued chronic inflammation of *liver and intestines especially*, as the autopsy clearly indicates. Our cohabitation was less than five months—11th Dec. 1858, to 3rd May, 1859.

Although so cruelly and seriously charged, and *my life perilled by it*, I will not complain on my own account for the present, under existing circumstances. I do, however, proclaim my *entire innocence* before the whole world ; and likewise declare, in the presence of Almighty God, that I am as pure as our Heavenly Father himself in this matter. At the same time, I cannot refrain from noticing and feeling the total neglect of the deceased by Messrs. Julius and Bird, and that for a *fortnight* (the time of their unjust suspicions), in not calling in other professional assistance, rather than *waste so much precious time* in hunting up matter to suit their own false impressions. It is indeed a most serious affair to *feel convinced that I was killing the deceased*, and yet *permit it to continue even until death occurred*, when a request to me to place the deceased entirely out of my charge would have met with a ready compliance at any time.

In conclusion, I am informed it has been stated I was not a legally-qualified member of the medical profession. I need only say I am a licentiate of the Apothecaries' Hall of London of twenty-five years' standing ; that I took my surgical education under Lynn, White, Guthrie, &c., at the Westminster Hospital ; and am doctor of medicine of the University of Erlangen of some years' standing, having been in the habit of visiting the Continent for many years. I may mention the late Drs. Pereira and Ashwell, and many other eminent men, as having taken these foreign degrees.

I have retired from the profession for the last six years.

THOMAS SMETHURST,

June 1st, 1859.

Prisoner, Horsemonger-lane Goal.

P.S.—The deceased's father died of a *similar attack of the bowels* in about nine days, although he had several eminent men in attendance. *He never ate anything during his fatal illness*. The deceased often said she was sure she was seized with her poor father's complaint, and would not get over it.

[LETTER FROM DR. JAMES ARTHUR WILSON.]

To the Editor of THE LANCET.

Sir,—On the trial of Thomas Smethurst, at the Old Bailey, much stress was laid by the counsel for the prosecution on "a peculiar expression of terror" in the face of Isabella Banks, as indicating the action of a supposed irritant poison on the inner organs of the dying woman.

The importance of this collateral aid by death-

bed physiognomy in establishing the prisoner's guilt has since been maintained by a clever essayist in the columns of *The Times* ; and consequently "a peculiar expression of terror" is now on its probation as an axiom in forensic medicine, available for future trials in cases of criminal poisoning in all parts of the civilized world. Having seen many hundreds of my fellow-creatures die, under all circumstances and degrees of suffering, I ask leave Sir, to express through you, my earnest hope that this vague symptom of agonized face and feature did not weigh with the jury as a hair in the balance in their estimate of probabilities against the prisoner in the dock. After forty years' observation of disease in all its serious forms, I am as yet unable to recognise any "peculiar expression of terror" as diagnostic of the internal workings of extraneous irritant poison in any of its varieties. Persons, of whatever temperament, dying from fevered or otherwise damaged blood, always betray their state of suffering by their looks ; and in many complications of natural disease, a marked persistent expression of distress may be casually aggravated into one of intense and peculiar terror.

Without intending any reference to the trial in question, let me say, that were I summoned to the bed side of a pregnant woman, exhausted by sickness, and sinking under the discharges of dysenteric ulceration of the bowels, it would never occur to me, from any "peculiar expression of terror" observed in her face, by myself or others, to suspect her husband or those about her of administering antimony or arsenic, or any other irritant poison, to the patient in her gruel.

After the most careful and sifting inquiry, we accept, with due reserve, the issue of life or death, in these cases of marital and medical poisoning, from the decisions of *exact science* operating physically on particles of matter that may be seen, handled, weighed, and measured by the operator (as it always should be) by the *jury* of operators. Let us not prejudice the inductive delicacy and intellectual triumph of this exact physical evidence by admitting on a level with it the imaginings of an individual pathological eye, which imaginings not one in twenty of less gifted observers would undertake to verify.

Will you believe me, Sir, that I am writing to you on this matter with great unwillingness ; but this "peculiar expression of terror" has so haunted me for a week past, that I am betrayed out of my usual reserve into a self-imposed publicity. It seems to me that in forbearing to denounce this evidently captivating novelty of the murderer condemned by an involuntary expression on the face of his victim, I should be "leaving undone what I ought to do." Why, Sir, this "peculiar expression of terror" might easily be counterfeited, and sooner or later would be counterfeited, for contingent interested purposes or from pure malignity of spirit, by cunning

ning or rancorous individuals, sick, or shamming sick, were it once admitted as damntory evidence in our courts of criminal justice.

I can assure you, Sir, that I am not what is called a "sentimentalist" in these matters. I demurred to the "not proven" guilt of Madeline Smith; and our Home Government entirely lost favor with me when sentence of life reprieved was passed on Celestina Sommer, who cut the throat of her little half-starved daughter, on a winter's night, in a London coal-cellar, under every aggravation of cruelty and horror, some four or five years ago. Will this mystery of misplaced mercy—this much-vexed problem of extenuated murder—ever be solved? Let us hope, in our reverence for the laws of England, that some time in the twentieth century a ray of lurid light may be thrown on this ghastly caricature of royal pardons, under a heading of the "Grey papers," in the columns of the ever living public press.

I am, Sir, your obedient servant,

JAMES ARTHUR WILSON, M.D.

Dover-street, Berkeley-square, August 27th, 1859.

[LETTER FROM MR. RODGER, WHICH APPEARED IN "THE TIMES" OF AUGUST 24TH.]

Sir,—In the recent trial of Dr. Smethurst errors of the greatest importance, and more or less apparent, have gained publicity. In consequence of the weight attached to them by the Lord Chief Baron Pollock in his charge to the jury, their correction has become a matter of the utmost necessity.

The most prominent of these errors is the statement given in evidence by Professor Brande, that is a new fact in chemistry that chlorate of potash (meaning the mixture of hydrochloric acid and chlorate of potash) dissolves copper, and that he should have committed the same blunder as that acknowledged by Professor Taylor. This statement is untrue, and requires correction, the more so as the learned Judge urged this as a strong point in the consideration of the jury; and, again I emphatically repeat, not true, for this mixture has long been known as one of the most powerful solvents, actually used to dissolve copper from its ores, and so far from presenting obstacles to the detection of arsenic, it affords the means, as was discovered by Drs. Fresenius and Von Babo, of separating arsenic from the blood, organs, and tissues of the body (vide THE LANCET, vol. i. for the year 1844.) Indeed by a slight modification of their process, I have been enabled in a great number of instances to separate the minutest trace of many metallic poisons in numerous cases which I have been called upon by coroners to investigate.

It should also be known that the presence of chlorate of potash interferes in no way with the action of the tests by which the presence of arsenic in an aqueous solution can be most incontestably proved, and that Reinsch's process in itself is not a test, but is only a method by which arsenic can be separated from matters

that do not admit of the conclusive application of the proper tests.

Again, Reinsch's process was represented as the most efficient known; but it is ill-adapted where the blood, organs, and tissues form the subjects of analysis, and is totally inapplicable in all cases unless copper perfectly free from arsenic be employed. I draw particular attention to the importance of using perfectly pure copper, as Dr. Taylor in evidence emphatically expressed his determination to use the same copper gauze (which he has himself found to contain arsenic) in any future analysis he may be called upon to make where chlorate of potash is not present.

With the conviction of Dr. Smethurst a new era in our jurisprudence commences; for it is certain that cases similar to that of Isabella Bankes have occurred in the practice of our most celebrated accoucheurs from natural causes; that while the morbid appearances observed in her case were not such as our present experience warrants us to expect in a case of antimonial or arsenical poisoning, they were such as might arise from natural disease; that in no other case has poison been found in the blood without, on examination, its presence being most satisfactorily demonstrated also in the various organs and tissues—a fact on which my own long experience in toxicological analyses entitles me to express a most positive opinion.

I will observe, in conclusion, that in all cases of medico-legal inquiry it would be well to adopt the course pursued by Mr. Wakley—i. e., that the analyst employed should take only half the suspected matter, the remainder being sealed up by him and left in safe custody, in case his results should be called in question.

I am, Sir, your obedient servant,

J. E. D. RODGERS,

Formerly Lecturer on Chemistry at the St. George's School of Anatomy and Medicine.

Dorset-street, Belgrave-road, August 20th, 1859.

[LETTER FROM MR. HERAPATH, WHICH APPEARED IN "THE TIMES" OF SATURDAY, AUGUST 27TH.]

Sir,—I consider that professional witnesses who give their opinions where the life or freedom of a man is at stake are as much upon their trial as the prisoner, and that it is the duty of those who are well acquainted with the particular science they profess to correct any error that might deceive the jury or influence the fate of the prisoner. With these views, from my great experience in cases of poisoning, I think I ought to remark upon the chemical evidence adduced in the case of Dr. Smethurst. I find in *The Times* of May 21st, that Dr. Taylor deposed that "bottle No. 21 he found half full of a clear fluid," that he tried Reinsch's process on it, and "found that there were seven grains of chlorate of potash in an ounce of it, which was 1.610 per cent., and that there was a grain of arsenic to every ounce;" he further said that it was of the sort we call white arsenic, and that he had previously tried the tests (materials), and

found them pure. Here was evidence of the most positive and distinct kind; not only was arsenic found, but the weight estimated, and its nature (white) ascertained. Upon the trial, this was stated to be a mistake; that, although the former evidence was given so boldly and so particularly, it was now found that there was no arsenic in it, but that the arsenic found was in the copper, although the copper had, with the other materials, been previously proved to be pure. The witness went on to say, that he had at first operated upon an evacuation, and found arsenic in that, but admitted that he had used the same copper for many years. Consequently all proof of the presence of the poison, either in the body, or in the evacuation, or in the bottle in the possession of the prisoner, was destroyed by the witness himself, and the jury must rest upon the symptoms and physiological appearances in the opinions of the medical witnesses called, which are about equal for and against the prisoner. But the mischief does not end here; for if the same impure copper "has been used for twenty years," and evidence given upon it, what shall be said of the justice of the convictions and executions which have taken place during those years upon Dr. Taylor's evidence!

But was the arsenic said to be found in bottle No. 21 really in the copper used to prove its presence? Could the copper-wire gauze dissolved by seven grains of chlorate of potash and its associated hydrochloric acid deposit one grain of arsenic? In the face of all England, I say it could not. The hundredth part of a grain of arsenic in that quantity of copper would render it so brittle that it could not be drawn into wire at all, much less into fine wire fit for gauze. The fact is, the whole set of operations were a bungle. Reinsch's process is not applicable where nitrates or chlorates are present.

Next, where his admirable process is resorted to, the mere discoloration of the copper does not prove the presence of arsenic; it only proves that one or more of the inferior metals—arsenic, antimony, tin, lead, bismuth, mercury, &c., are present.

To individualize arsenic amongst these, four more experiments are necessary. The first is sublimation in a stream of air, when crystalline arsenious acid is produced from the black deposit. Next, that sublimate must be dissolved in water, and tested by three methods: first, ammonia, sulphate of copper; next, ammonia, nitrate of silver; and, thirdly, sulphuretted hydrogen.

Thus, one separation and four proofs produce a body of evidence which it is impossible to gainsay, and these five proofs should be brought into court, so as to be examined by those who are competent to recognise them. And I here warn juries that no evidence short of tangible production of the poison and its tests ought to be for one moment attended to. Any deviation from this rule will convert a convicted criminal into a martyr, and deprive trial by jury of the

infallibility which it ought to possess; and, lest it might be imagined that it may not be possible to secure enough of the poison to make the five proofs, I should say that the one-thousandth part of a grain is quite sufficient.

I remain, Sir, yours, &c.,

WILLIAM HERAPATH, SEN., F.C.S.,

Bristol, Old-park, Aug. 24th.

Prof. of Chemistry.

[LETTER FROM ALFRED S. TAYLOR, M.D.]

To the Editor of THE LANCET.

Sir,—Allow me to correct some important errors in your leading article of the 27th August. The fact that arsenic was contained in the copper gauze did not arise from any suspicion or suggestion from Mr. Brande or any other person. After the closing of the inquest on the 31st May, Dr. Odling and I tested various samples of chlorate of potash and copper, with the view of determining whether they contained arsenic as an impurity. In the course of these experiments, it was conclusively proved, on or about the 7th June, to the satisfaction of both of us, that the copper gauze which had been used in our analysis contained arsenic. A report to this effect was drawn up, and placed in the hands of the solicitor for the prosecution. The fact was stated to the grand jury on the 14th June, so that the error might not prejudice the prisoner. The residuary liquid in the bottle No. 21 was sealed up. In re-testing this liquid, it was deemed advisable that a chemist, eminent for his integrity and knowledge, should be present to take a part in the experiments and witness the results. Mr. Brande, who had not previously been consulted in this case, was requested by the solicitor for the prosecution to attend at the chemical laboratory, Guy's Hospital, for this purpose. The liquid of No. 21 was re-examined by Mr. Brande and ourselves on the 28th of June—i. e., three weeks after we had discovered the presence of arsenic in the copper. He did not express any suspicion to us, but we first communicated the fact to him: and up to that time he, like ourselves, had no suspicion that arsenic was contained in the finely-woven copper gauze.

You say that no arsenic or antimony was discovered in any of the tissues of the body of Miss Bankes. This is an error, and it has had a wide circulation through the press. Dr. Odling and I stated in our evidence that antimony was distinctly found in one of the kidneys. We also discovered it in notable quantity in the jejunum, ileum, and cæcum. In addition to these results, there were traces of the metal in the blood.

I am, Sir, your obedient servant,

ALFRED S. TAYLOR, M.D., F.R.S.,

St James's terrace, Regent's park, August 31st, 1859

[LETTER FROM DR. HENRY SAVAGE.]

To the Editor of THE LANCET.

Sir,—Until I read the medical evidence at Dr. Smethurst's trial, I was not aware that the



experience of any medical practitioner of standing could be so entirely barren of cases in support more or less of the position maintained by Dr. Tyler Smith; yet so it seems to be in the instance of the distinguished medical evidence for the prosecution. All that was adduced on the subject of fatal constitutional disturbance from utero-gestation came entirely from the medical evidence for the prisoner. The jury, if they did not entirely ignore the possibility of this third cause of the death of Miss Bankes, kept their minds intent on dysentery, according to Dr. Copland and others, or irritant poisoning, deciding for the latter as a matter of course.

There has been a confusion of meanings under the single term dysentery. Epidemic dysentery is a very different thing from the dysentery incidental to irritant utero-gestation. It was never, I imagine, seriously contended that there is but one sort of dysentery; nevertheless, it is chiefly due to Dr. Smith's determined perseverance that a distinction so vital to the prisoner is likely to have its due weight.

The prosecution must have taken enormous pains to avoid availing itself of any medical testimony in favor of Dr. Smethurst, or the medical witnesses identified themselves with that antagonism which, right or wrong, is not discouraged between opposing counsel. Either is suggestive of the most painful reflections, humiliating and derogatory to the medical profession, Dr. Babington's 2000 cases, long obstetric career, and avowed ignorance of any such cases as mentioned by Dr. Smith, notwithstanding.

Besides Dr. Smith, Dr. Quain, Dr. Girdwood, and Mr. Nichols, have communicated to the public press particulars of cases which not only resembled, but exactly corresponded in symptoms with, the case of Miss Bankes. I have not seen a fatal case, but, for the sake of the still critical position of the accused, I feel bound to declare most positively that the cases I have seen—which the more decisive testimony of the above gentleman renders it necessary to mention in their details—justify my fullest assent to their opinions. In Dr. Quain's case, the possibility of accidental poisoning actually occurred to the medical attendant, and was the subject of chemical investigation.

Dr. Smith draws a striking parallel between the cases of Miss Bankes and Charlotte Brontë, which died of poison? According to Dr. Smith, *neither*; according to the jury which convicted Smethurst, *both*.

The time is come for cautioning our profession against this frightful proneness to suspect poison when a disease turns out rebellious or inflexible. The medical mind has not settled down, apparently since the Rugeley affair. Early this year I was concerned in a most serious inquiry arising out of a prepossession of this kind. A gentleman under the care of a London physician for an obscure paralytic affection, on his return to his place in the country was taken ill of a form of low fever then prevalent in the district.

He got rapidly worse; his London physician was sent for; but he died a few days afterwards. The local practitioner was astounded by a letter from the physician charging somebody with killing the patient by an acrid poison, "because he could not reconcile the symptoms with those he saw when the patient was in London." Although he saw fit to change his opinions (in which he stood alone) almost immediately afterwards, a most searching investigation was instituted by the family; but the coroner declined to hold an inquest, and so the matter dropped. Chlorate of potash, I believe, was freely given during the illness. I feel with Mr. Herapath, that "if the same impure copper has been used for twenty years by Dr. Taylor (Dr. Taylor's own frank admission), what shall be said of the justice of the convictions during those years on Dr. Taylor's evidence?" I often think now of the arsenized copper-gauze, and shudder at the narrow escape of the "next of kin" in the above case.

The lawyers have not lost the opportunity offered by the utter break-down of the scientific evidence in these poison trials to retort upon us with stinging effect that "glorious uncertainty" considered hitherto the special attribute of the law. A "Lawyer" of twenty years' standing, moreover, tells us that there is no drug but quinine which is not perpetually disgracing the precepts of the *materia medica*.

Between the 18th and 29th of April, the following are only *some* of the medicines administered to Miss Bankes: acetate of lead, nitrate of silver, sulphate of copper, opium, chalk, bismuth. The "Lawyer" inquires whether we are prepared seriously to take our oath that we do not ourselves believe that the patient would have stood a better chance of life had not a single drug out of the above catalogue been given? For myself, I must say that one of the cases I alluded to improved immediately medicine was discontinued. Another did well, being safely delivered at the usual period. Because she took no medicine?—such was the unanimous feeling of those with me in attendance. In fact, a moment's reflection—if we adopt the reflex explanation to account for the otherwise unaccountable obstinacy of sympathetic vomitings and purgings amongst pregnant women—must convince us of the dangerous uncertainty of minerals in themselves "acrid" and "irritating."

It is far from my wish to stigmatize anybody. Dr. Julius and Mr. Bird did not suspect pregnancy; and making every allowance for jealousy or envy on the part of those most severely critical on Dr. Taylor—in short, accepting him still as the exponent of all toxicology can do—unless the aspects of the criminal system very soon change, or toxicology get respectable as an art, we must look forward to some judicial murder.

The *identity* of symptoms between the cases of Mrs. Dove and Mrs. Smith (who were killed incontestably by strychnia) and that of Mr.

Cook, alone convicted Palmer. The two cases seemed to occur providentially, to bring the dreadful Rugeley drama to its legitimate conclusion; and Palmer was proved to have had the strychnia which he could not account for in a way compatible with innocence. Those who have been so eager to compare the Smethurst and Palmer cases ought not to hesitate in according to the former the full benefit of the contrast. No poison could be traced to Dr. Smethurst. Not one of the medical witnesses could speak positively from his own knowledge as to distinctive signs of irritant poisoning. The identity of symptoms existed *alone* between Miss Bankes and the cases mentioned by Dr. Tyler Smith, Dr. Quain, and others. This identity, the same in kind as that which convicted Palmer, ought clearly to acquit Smethurst.

A contemporary sums up its impressions thus—"Is the prisoner guilty? We believe he is. Was he proved to be guilty? Certainly not; innocent men have been hanged on circumstantial evidence as strong as in Smethurst's case. We entertain no pity for the prisoner."

I remain, Sir, your obedient servant.

HENRY SAVAGE, M.D.

Gloucester-place, Portman-square, September, 1858.

## ON A CASE OF OBSTINATE NEURALGIA.

To the Editor of THE LANCET.

Sir,—Amongst the large number of the professional men who read THE LANCET, there may chance to be some acquainted with an obstinate and painful form of nerve disease similar to that shown in a case of which I will briefly relate the symptoms.

The patient is a well-formed, active gentleman, thirty-eight years of age. When fourteen years old, he began, without assignable cause, to suffer pain in both legs, in a position deep in the calf, described by him as feeling "deeper than the flesh, and against the bone." No pain is felt at the front of the leg. The pain is of a slow aching character; no darting. Its degree may be judged of by its not being felt if there be pain in any other part of the body, or if the mind be entirely engrossed by a particular subject; but it is perceived constantly when these conditions are absent. It does not prevent sleep; but, if restless, it retards sleep. It is not at all affected by motion. Most ease is obtained when the leg is flexed.

The patient has not been free from pain for twenty-five years, and as he gets older it becomes more acute. Every effort has been made by him to have the affection removed, so far without success. He has seen a score of surgeons, who have tried the various alteratives and tonics of the materia medica, including mercury, iodine, quinine, &c.

A great obligation will be conferred, if any

medical practitioner can report the treatment successfully pursued in any similar case.

I remain, Sir, respectfully yours,

A SUSSEX SURGEON.

October, 1859.

\* \* \* Our correspondent is referred to a case in point just received, in reference to the subject of his inquiry:

## DIVISION OF THE POPLITEAL NERVE FOR NEURALGIA IN THE LEG.

By E. M. C. HOOKER, Esq. M.R.C.S., Hadlow.

Jane B—, aged twenty-five, has suffered for the last ten years from the most excruciating pain in the left leg. The pain has been attended with atrophy of the muscles of the limb and ulceration, said to be peculiar to disease of the sensitive nerves. To obtain relief from this most miserable condition, she has three times been an inmate of the Maidstone infirmary, once of St. Thomas's Hospital, once of St. George's Hospital, once of St. Bartholomew's Hospital, twice of Margate Infirmary, and three times of King's College Hospital, where she has had the tibia gouged in all directions: still no relief. The constant pain and almost entire loss of sleep at last began to tell seriously on her strength, death seemed to be looming at no great distance. Although amputation had been most earnestly requested by the patient, none of the eminent surgeons under whose care she had been considered it advisable to accede to her desire.

The only method of obtaining relief seemed to me to be section of the popliteal nerve. After consulting with my partner, Mr. G. Vine, I determined to cut down on and divide the nerve as high as one could conveniently do so. Accordingly, on the 24th of June, the patient being under the influence of chloroform, I traced the edges of the ham-string muscles from below upwards, till I reached the point at which they appear to join. I then made an incision in a slightly oblique direction from without inwards, carefully cutting until I reached the edge of the biceps; then the director was freely used, and in a few seconds the nerve was thoroughly exposed and cut. The edges of the wound were then brought together by sutures and adhesive plaster.

The following day, the pain seemed to be as bad as ever; and although pain experienced in any locality does not always entirely cease on section of the nerve, yet I much feared that the disease existed beyond the reach of the knife. However, the pain decreased every day, and ulcerations on the leg began to heal immediately, and have now for some weeks disappeared. She has not suffered from any pain in the limb for more than eleven weeks. Her general health is in the meantime greatly improved; and her countenance, as might be inferred, has entirely altered its character.

I may mention a somewhat curious fact con-

needed with this case—namely, that although the limb, before section of the nerve, was most sensitive to the prick of a needle, yet that a galvanic current, of considerable strength, and applied in every conceivable direction, had not the slightest effect on it.

It is hoped that a mechanical contrivance now in the course of construction will enable this patient to dispense with crutches upon the aid of which she has been for some years dependent.

#### ON MERCURY AS A CURATIVE AGENT.

*To the Editor of THE LANCET.*

Sir,—Being a constant reader of THE LANCET, and believing you to be a sincere searcher after truth without respect of persons, I write in hopes that you will insert my few remarks regarding mercury as a curative agent.

You are probably aware that in Edinburgh there are three classes of medical teachers—one who gives mercury freely, one who confines its use to a very few cases, and one who never gives it at all, declaring it worse than useless under all circumstances; the authority of the latter class being certainly as high as that of the others as accurate observers of disease and of the effects of remedies. And you may well fancy the surprise and perplexity of the student as he passes from one professor to another, during his curriculum, and hears them lay down their different dogmas so directly opposite to each other. Under such conflicting opinions, the student, if at all of an independent turn of mind, will throw all their statements to the wind, resolve to spend a large portion of his time in the wards of the Royal Infirmary, set himself to watch narrowly all sorts of cases, both in the medical and surgical wards under various systems of treatment and under the care of his teachers who hold such diversity of opinion. With these opportunities he will watch each teacher's cases, compare their different modes of treatment, draw conclusions, and judge for himself. This is what I have done. For three years I examined and watched narrowly all kinds of cases in that hospital, often spending two hours a day in the wards—Sundays not excepted; and during that short I have seen some very sad and heart-rending cases. But, in all justice, I must say, that the most hopeless (I had almost said the most shocking) cases, the most blighted specimens of humanity, were those in which mercury had been given to cure disease. And after observing the very same class of cases get perfectly well under mild and simple treatment, one can hardly suppress a feeling of rising indignation against a system of treatment so direful in its results, so ambiguous in its operation, and so essentially unnecessary.

Professor Syme never gives a particle of mercury in any form of disease; and this after thirty-six years' experience. Professor Bennett never gives mercury, except as a purge; and

in his wards I have seen as severe cases of *iritis* as I ever saw in the eye wards get perfectly well, without one particle of mercury, within the usual time. I have also seen Dr. Bennett treat severe cases of *pericarditis* most successfully without mercury. And this reminds me of some remarks made by one medical teacher in his systematic lectures, on giving mercury in *pericarditis*. I copy his own words from my note-book:—"I am in doubt as to the utility of mercury in *pericarditis*. I do not like to give it, but I do give it; I do not know why: I believe because others give it—because we are told in books to give it—because Dr. Latham thinks it does good. I have seen much harm done by mercury in this disease. One young woman sank under its use; the nates sloughed, and I blame nothing but mercury." This statement shows how some minds cling to old and absurd customs in spite of their better and more enlightened convictions.

I am, Sir, your obedient servant,

1866, Oct. 1866.

M.D.

#### LATERAL PRESSURE AND THE VENOUS CIRCULATION.

*To the Editor of THE LANCET.*

Sir,—Shall I be intruding too much on your kindness if I ask the favor of your allowing the following observations on the circulation of the venous blood to appear in your journal. The means by which this circulation is carried on have never been, to my mind, satisfactorily explained, and my belief that the remarks I now offer may assist in its elucidation must be my excuse for thus troubling you.

The motive powers, on which the circulation of the blood has hitherto been thought to depend, have been confined, I think, to the heart's action, exerting its force *à tergo*—muscular movements, atmospheric pressure, a propelling action in the vessels themselves, to which is added, I believe, by some, a suction power in the heart. Now, the first alone is sufficient to account for the arterial part of the business; but with all the others combined, it fails, in my opinion, in explaining the movement of the blood on the veins.

"Facilis descensus avari,  
Sed revocare gradum iterumque ascendere ad auras,—  
Elic labor, hoc opus est."

In the first place, the direct motive power of the heart, acting from behind, can hardly be allowed to have sufficient effect after it has been diffused amongst the capillaries. That it has some no one denies, because that can be demonstrated; but that a force so scattered should be able, as it were, to re-collect itself at the venous radicles, and then move on their ever-increasing burthen to the heart, is, to say the least of it, very doubtful. Muscular movement is absent during sleep, save in the involuntary muscles, and atmospheric pressure, unless opposed by a pressure from within, can avail but

little; and the existence of a propelling action in the vessels themselves, and of the suction power in the heart, is disputed, and if allowed, would be but of secondary import. But yet this movement does take place, and, being strictly mechanical, must have an attainable cause. Is that cause to be found in a *lateral pressure* exercised by the heart?—by a pressure not exerted *à tergo*, as is ordinarily supposed, on the contents of the vessels, but by a pressure exerted laterally by the distending artery on the adjacent vein, at every systole of the heart? For a vessel may be emptied of its blood by external pressure applied to its coats, as well as by one acting on the contents themselves. The proximity of the large veins to the arteries rather favors this hypothesis. Why should they be thus closely associated, but that the heart—the only motive power—might be able to perform a double function—viz., by the distension of the one effecting the compression of the other, and thus propelling the contents of both. That the artery enlarges under the pulsative action of the heart there can be no doubt, and that the contents of the veins receive an impulse from it is exemplified by the jet by which, on venesection, the blood is sometimes seen to leave the vein. It is impossible that this saltatory movement can proceed from any other cause, for there is no pulsation in the veins; it is the result of pressure exercised by the pulsating artery from without, and giving this corresponding movement to the blood. And then, too, this lateral pressure is exercised where it can be most effectual—viz., on the larger veins. Bound up, as the femoral is, in a tense sheath, it is impossible for it to escape the pressure of the distending artery; it must make way for it, and it does so by the compression of its sides. If this principle of lateral pressure be admitted, it will apply, with few exceptions, to all returning vessels, small as well as large. For though they may not be in juxtaposition with arteries, yet the distension caused by every fresh volume of blood sent into a part already full, must dislodge that already there, which it does, in my opinion, by the lateral pressure I describe. Objections may be urged against this theory, as not being applicable to the circulation in the superficial veins. Well, perhaps there may; but it must be recollected that this circulation is the most imperfect of all, and is it not possible that the varicose condition into which these vessels sometimes fall, may depend upon the absence of this assisting power? Placed external to the fascia, they are, to a great extent, if not completely, beyond the influence of arterial expansion; and the benefit derived from the bandage, or laced stocking, by affording lateral pressure, rather leads to this conclusion. The atmospheric pressure here wants the opposing pressure before alluded to. Take, again, the circulation of the brain: there, muscular action and atmospheric pressure are absent; they cannot assist the blood to the sinuses.

But, admitted the lateral pressure of the distending arteries—admit the resistance offered by the bony covering of the skull in lieu of that of the atmosphere, and the phenomenon is solved. Jammed up between the distending arteries and the unyielding calvarium, the contents of the veins are forced into the sinuses, and thence to the jugulars, and home.

That the brain would alter its figure if it could, is evidenced by the bulging of the dura mater through an opening made by the trephine. That the same pressure is made though the opening be not there, no one will deny; but not being there, it exerts its influence on the yielding contents of the skull—namely, the veins. Take, again, the imperfect closure of the bones of the head in infancy: if the sutures of the skull are very open, the chances of the child arriving at maturity are much lessened. And why is this? Simply because the resistance opposed to the action of the heart by the yielding membranous covering is not sufficient to secure that lateral pressure necessary to the emptying of the venous circulation, and congestion and effusion are the consequences.

What the calvarium is to the veins of the brain, the atmospheric pressure is to the veins of the rest of the body. They afford a resistance to the lateral pressure occasioned by the expansion of the arteries, and thus enable it, in my opinion, greatly to assist the venous circulation.

It is not necessary to adduce further examples; that would require more space than I could ask in your publication. Enough has been said to show my views. Besides, it may be that my premises may be satisfactorily upset; if so, enough has been said already. It may be, also, that all this has been advanced before, and received its quietus before I received my existence. It may be, however, that my views may be favorably received; if so, I shall have ample opportunities, should I feel so disposed, to place them before the profession in a more comprehensive form.

I am Sir, your most obedient servant,

JAMES NICHOLS, F.R.C.S.

Savile-row, Oct. 1859.

#### ON THE CAUSE OF THE FREQUENCY OF STONE.

To the Editor of THE LANCET.

Sir,—In your number for September, 1859, I find the following remarks on the “Cause of the late frequency of stone”:—

“Now, the question has been asked several times, why it is such a large number of cases have appeared at the various hospitals this summer to undergo relief by operation; and the best explanation of the fact we have heard from Mr. Cooper Forster, at Guy’s Hospital, which is to the effect that the continuous hot weather which we have had this summer, much more so than for some years past, has produced unusual concentration of the constituents of the urine

from the large amount of exhalations, necessarily a consequence of the high temperature. All those persons, therefore, especially children, who have had stones in their bladders, have had their sufferings increased proportionately, and hence their application for hospital relief; when in many instances where a calculus was not suspected, it has been found to be present, and the main source of the symptoms of urinary disorder. This explanation of Mr. Forster also tells why so many small calculi were removed—because the symptoms owing to the warm weather, brought the patient at a much earlier period under the notice of the surgeon. We should say, in many instances, the stone was remarkably small for the operation of lithotomy."

It may certainly be allowed, as stated in the last part of this paragraph, that the symptoms of stone, during warm weather, might become more patent from the concentration of the urine, and thus more readily lead to detection; but that the cases themselves should be more frequent "owing to the large amount of cutaneous exhalations, necessarily a consequence of the high temperature," is not so easily admitted, unless it were shown that parties habitually engaged in dye-works, and other establishments exposed to high temperatures, were more liable to stone in the bladder than others. Whether such be the case, I do not know; but it is a fact that in this colony, within ten degrees of the line, and in the other Antilles generally, where cutaneous exhalations are copious and continuous, particularly amongst Europeans newly arrived, stone in the bladder is altogether exceptional, while renal calculi are frequent.

I am, Sir, your obedient servant,

Trinidad, June, 1859.

H. MITCHELL, M.D.

#### CASES OF RAPID PARTURITION.

*To the Editor of THE LANCET.*

Sir,—Perhaps the following cases may be interesting in a medico-legal point of view:—

CASE 1.—A short time since I was sent for in a great hurry to attend Mrs. T——, a neighbor. On arriving, I found her standing against a wall, at the landing of a staircase, and before her was a large pool of blood, in which a child was lying, cold, and apparently dead, with the funis torn through. After a little trouble, the child revived, and is now living, and the case terminated well. The woman said that she was coming down stairs, feeling quite well, when her foot slipped, and she fell over three stairs, and gave birth to the child immediately without a pain.

CASE 2.—Mrs. W—— engaged me to attend her, stating that she was always very quick, so that when sent for I went immediately. She was lying in bed, looking quite comfortable. I went to the fire to warm my hands; whilst doing which I heard her sigh, but so slightly that I took but little notice of it; but on proceeding to

the bed, I found the child born. It was not particularly small, neither is the mother a large woman.

H. T. SCOTT, L.F.P. & S. Glas.

#### MEDICAL TRIALS.

##### COMMISSION OF LUNACY.—LEGACY TO A PHYSICIAN.

An inquisition in lunacy terminated at Exeter on the 18th instant, which had lasted five long days, had interrupted the assizes at Bristol by withdrawing the leaders of the circuit, and had excited intense interest in the west of England. The real question at issue was the state of mind of Miss Phoebe Ewings, a maiden lady of eighty years of age; but the collateral question, and source of excitement in and out of the profession was the conduct of Mr. Thomas Shapter, who, it was alleged, had made a will for the alleged lunatic in his own favor subsequent to the presentation of the petition of lunacy. The main facts were briefly these:—

Miss Ewings had an attack of paralysis in October last. At Christmas, she had an attack of mania, accompanied by violence, and the delusion that there were people in the house wishing to murder her. She was then placed in the Haydock Lodge Asylum, whence she was removed and brought to Exeter on the 15th of February by her relative, the Rev. C. Ellicombe, who placed her under the medical care of Dr. Shapter. During her residence at the asylum, she suffered from various delusions, especially that people were threatening her life, and that they were attempting to convert her to the Roman Catholic faith. Up to the time of her removal, and even during her journey to the south, she displayed these delusions, accompanied with violent excitement. On the day following her arrival in Exeter, Dr. Shapter informed her relative Mr. Ellicombe, (who, nothing doubting, had asked him to sign a certificate of her insanity,) that in his opinion she was of sound mind, and that she had placed herself under his protection; and he shortly afterwards forbade the access of Mr. Ellicombe and other relatives. He opened the lady's letters, transacted her business, and constituted himself, in his own words, "the guardian of her person and her property." On the 12th of March, Dr. Shapter wrote to Miss Ewings' solicitor that she had never mentioned the subject of a will, but that if she did make one, and left any bequest to himself, he should undoubtedly repudiate it. Dr. Greenup, the next of kin, having, in opposition to a written refusal of Dr. Shapter, obtained access to Miss Ewings on the 15th of April, and having come to the opinion that she was quite demented, presented a petition in lunacy. On hearing the affidavits, the Lords Justices requested Dr. Bucknill to act as medical referee, and that gentleman reported to the

Court, on the 21st of June, that Miss Ewings was quite incompetent to the management of her property or the transaction of business; he also reported that a will had recently been made. An inquisition was thereupon ordered; and Dr. Shapter and his solicitor, Mr. Gray, gave evidence of the manner in which the wills (for there were two) had been made. Mr. Sharpe, the lady's ancient medical attendant, was sent for from Warrington, and after a dinner-table conversation, he expressed his opinion that she was quite recovered from the insanity for which he had signed a certificate. Thereupon, the lady's solicitor, acting with Dr. Shapter, told her that she was quite well enough to make a will, and she had better make it now. Dr. Shapter took instructions from her respecting some legacies; and on the 30th of May, he himself made the first will, which was then signed by Miss Ewings, and attested by the lodging-house keeper with whom she resided, and by her servant. These persons were named as legatees, but in order that the will might not be invalidated thereby, Dr. Shapter undertook to give them the money at once. By this will, about £800 was left in legacies, and £13,000, the remainder of the property, was left to Dr. Shapter, who was named residuary legatee and sole executor. The solicitor, when informed of this transaction, recommended another will to be made. Dr. Shapter said nothing in the witness-box respecting any alteration in this second will, which was made in his presence on the 2nd of July. Mr. Gray, the solicitor who drew it up, however, informed the Court, for the first time, that it contained very important alterations—namely, that in the event of Dr. Shapter's death, it left the property to his eldest son, Master Tom; and in the event of his death, it left the property to Dr. Shapter's other children. When the will had become public, and the old lady was on the point of being declared insane, Dr. Shapter as publicly repudiated the bequest.

With regard to the state of mind, Drs. Bucknill, Take, Fox, and S. Budd deposed to having submitted the lady to long and careful examinations, and they unanimously testified to the existence of dementia, evidenced by great loss of memory by frequent, but not constant, inability to count small sums of money, by inability to read or to tell the time on a watch, and by complete ignorance of money matters. Some of these witnesses also deposed to the continued existence of delusions. On the other hand, several medical gentlemen gave their opinion that Miss Ewings was perfectly sane, and even of strong mind; but their evidence was invalidated by the admission that they had not subjected her powers of mind to examination, but had been satisfied with dinner-table conversations, in which some of them found themselves engaged without any previous intimation that the lady was supposed to be insane. The examination of the lady by the jury of twenty-three gentlemen, and the Commissioner, Mr. Samuel Warren,

was perfectly conclusive of her mental unsoundness and inability to understand business. She said she had made Dr. Shapter "residuary legatee," and would make the Commissioner "residuary legatee" also; she could not tell that ten pounds ten shillings were ten guineas, she promised the Commissioner £500 for a church, and pressed upon him two guineas for himself; she often repeated, in a parrot-like manner, that her will was her "own act and deed;" and she evinced a degree of dementia beyond all schooling. The jury immediately found a unanimous verdict that she was of unsound mind, and incompetent to the government of herself and property, in which the learned Commissioner expressed his entire concurrence.

### SUCCESSFUL PROSECUTION OF A "MEDICAL BOTANIST"

#### THE MEDICAL ACT EFFICACIOUS IN SUPPRESSING QUACKERY.

At the Petty Sessions held at Rhayader on the 27th ult., the magistrates on the bench being T. Prickard, Esq., and the Rev. J. Williams, Sergeant Constance brought up before the bench *Henry de la Cuer*, alias *Dr. de la Cuer*, charged by Mr. R. Richardson, L.F.P.S.G., for having wilfully and falsely pretended to Sarah Rowlands that he was a practitioner in medicine, and also for obtaining money under false pretences. Mr. Richardson pressed for the first charge, as it may be the means of warning to others.

Mr. Richardson.—My object in this case is for the public good, as persons are in the habit of going about the country without any qualification whatever, merely for the purpose of obtaining money, and they generally prey upon the ignorant afflicted, who are apt to be deluded by their fair promises of cure. In consequence of seeing one of the self-styled doctor's bills, I made inquiries, and yesterday, late in the evening, I was informed that he visited Sarah Rowlands (who is blind with closure of the pupils from adhesion of lymph, in consequence of a violent attack of iritis). I went to her house, accompanied by Sergeant Constance, and asked if she had received any medicine from defendant. She said she had received a bottle of mixture and a small phial with lotion, to bathe the temples, for which she paid four shillings. Sergeant Constance took possession of the medicine, and handed it over to me to be analyzed. Then from her house I accompanied Constance to defendant's lodgings, at the *Swan* Inn. When asked for his diploma, the defendant said he had it not with him, but that it was a little way off. His name, he said, was Dr. de la Cuer. He could not produce a diploma. Constance then took him in charge for pretending to be a practitioner in medicine, and for obtaining money under false pretences. The bottle now produced is horse's urine and whiting, scented with piments, and colored with something like cochineal.

On analysing, I find that it contains hippuric acid under the microscope, and by evaporating a small quantity it emits the smell of horse urine; in my opinion, and according to my tests, it contains these detestable ingredients. The lotion to bathe the temples contains a preparation of lime in the form of chalk and whiting and pimenta water. I am not aware of these things being employed as medicine in this complaint. It is not directly injurious, but it is extremely offensive. The lotion can be of no service whatever, unless he expects her sight to improve by whitewashing the temples. (Laughter.) Mr. Richardson then drew attention to some printed papers in defendant's box, with "Dr. de la Cueur" on them.

The defendant, a middle-aged man, of a Jewish appearance, who spoke English imperfectly, said,—My name is Henry de la Cueur. I am a medical botanist. I am not a medical practitioner, but a medical botanist. I am a native of Paris. I have been in this country more than fourteen years. I have been living in Swansea, Cardiff, Tredegar, and Brynmowr. I do allow that I visited Sarah Rowlands, and sold her some medicine, not as a medical practitioner, but as a medical botanist. I have no diploma of any sort. I have been in practice more than thirty years. I make de medicine myself from de roots, and sell it to de patients, and dat is medical botany. I am not a "doctor" of medicine. De papers in de box are a misprint. I have been in practice in England more than fourteen years. I am ignorant of the English laws. If you take my word, I have been in practice many years. If you take my word, I do not put horse's urine in medicine. If you do not believe me, I will drink some of it myself. I have no diploma to show.

Sarah Rowlands deposed.—I did not call defendant in; came to my house, and told me that he had medicine that would cure me quite, and that I should be able to see as well as ever in twelve days. I had a bottle of mixture and a small phial with something to bathe the temples. Mr. Lawrence gave me some of it once to take. I paid for it. I paid him four shillings. He asked me five shillings and sixpence at first. He said that he would take one shilling and sixpence again if he should happen to come round. He sent a paper to my house the day before he called.

Sergeant Constance deposed.—I saw the defendant yesterday morning hawking a box of medicine about the town, and about half-past nine last night I found that he had sold it to Sarah Rowlands, and had received four shillings for it. I took possession of the medicine, and handed it over to Mr. Richardson, to be analyzed by him. I then went in search of defendant, and found him in bed at the *Swan*. There were two persons, one in each bed. I asked which was the doctor, and he replied "Here I am." I then demanded to see his diploma. He said, "I have not got it with me, but it is close by." Then he said that it was at Builth, in his carpet-

bag. I then charged him with acting as a medical man without a diploma or a certificate, and with receiving four shillings under false pretenses. He said he should say nothing to the charge. I took him to the station and there searched him, and found upon him a watch and chain, an eye-glass, and what he called "a pulse-glass," 8s. 1d. in money, a tobacco-box, and a pipe.

The charge having been proved, the defendant was fined 30s, and 11s costs. Immediate payment was ordered, or in default of payment one month's imprisonment; and to leave the town in six hours.

## New Inventions

IN AID OF THE

### PRACTICE OF MEDICINE AND SURGERY.

#### NEW FIELD PANNIERS FOR THE ARMY MEDICAL SERVICE.

Messrs. Savory and Moore have constructed, under the authority of the Director-General of the Army Medical Department, some new medical field panniers. In the prospectus which they have issued, the inventors remark that

"The medicines and surgical instruments have been augmented and modified, to admit remedies and appliances recently adopted and employed in general practice. Each pair of panniers is also provided with a simple contrivance, by which an excellent operating-table may be instantaneously constructed. Another most desirable addition is that of medical comforts, in the shape of tea and sugar, cocoa-milk, arrow-root, concentrated beef-tea, and brandy, with the means for heating a little water to prepare invalid drinks and diet.

It has not unfrequently happened during war that medical officers have found themselves called upon to attend the wounded when the medical store cart was following far in the rear, and they had nothing but the panniers to fall back upon; at such times especially, the want of an operating-table and medical comforts was keenly felt."

The arrangement of the necessary medicines and appliances in so small a space as that afforded by the regulation field pannier must have been a difficulty not easily overcome. In the old pannier, the army surgeon could not readily put his hand on any particular article he might require, all being more or less indiscriminately placed. The interior economy, however, of the new pannier is admirable; everything is neatly and securely arranged, and the removal of one thing does not disarrange those that remain, in fact, medicines can be as quickly and certainly prepared as in a permanent surgery.

These new panniers have also another important advantage: they are constructed so as to



form an operating-table, of great strength and firmness, at a moment's notice. The addition, too, of a large supply of medical comforts will be fully appreciated by the surgeon undergoing the hardships of a campaign, and the gain to many wounded sufferers will be inestimable.

The entire arrangement reflects great credit upon Messrs. Savory and Moore, who have made a most skilful use of the limited space allowed by the Director-General, many of whose valuable suggestions have been of much service to the inventors.

### News Items, Medical Facts, &c.

**HOSPITAL STATISTICS.**—GUY'S HOSPITAL, founded by Thomas Guy, in 1721, for the reception of 400 patients, and recently enlarged through the aid of a large bequest from the late William Hunt, contains at the present time nearly 550 beds; and, with its extensive buildings and airing grounds, occupies an area of about seven acres. The hospital is divided into medical, surgical, clinical, ophthalmic, uterine, and venereal wards, independently of a ward, in a detached building, for lunatic patients, the vacancies in which the governors of the hospital have of late years forborne to fill up. In the year 1857, 44,281 persons were relieved by its means; 5226 as in-patients, 9889 as out-patients, and 25,886 as casualties, besides 1731 women who were admitted in their confinements, and 1549 who received advice from the Lying-in Charity. Four hundred patients are now received into the original building of Guy, and one hundred and fifty into the part of the new wing already completed; the latter building, when finished, will admit three hundred persons.

**ST. BARTHOLOMEW'S HOSPITAL** contains 650 beds, of which 420 are allotted to surgical cases and diseases of the eye, and 230 to medical cases and the diseases of women. The number of patients is more than 95,000 annually; the in-patients amounting to upwards of 6000, the out-patients and casualties to more than 89,000.

**THE LONDON HOSPITAL** contains 445 beds, of which 135 are allotted to medical, and 310 to surgical cases; of these 310 beds, about 190 are exclusively appropriated to cases of accident. In the year 1858, the hospital received 27,790 patients, including 2976 in-patients and 23,814 out-patients. The accidents brought to the hospital, during 1858, were 11,529, including 2090 in-patients and 9439 out-patients.

**THE MIDDLESEX HOSPITAL**, from recent enlargements, contains upwards of 300 beds, of which 185 are for surgical and 120 for medical cases. The cancer establishment receives 33 patients. Wards are specially appropriated to cases of uterine disease and of syphilis. 2109 in-patients were admitted during the past year. The number of out-patients during the same period amounted to 16,469.

**ROYAL WESTMINSTER OPHTHALMIC HOSPITAL**—This hospital set the example in London, in 1816, of receiving the poor on their own application, without letters of recommendation. During 1857, 6315 persons were treated, of whom 160 were admitted into the hospital, and 6155 were treated as out-patients; of these, nearly 2000 were children of tender age. The principal operations were—57 for hard cataract; 49 for soft cataract; 14 for the formation of artificial pupil; 220 for strabismus; 227 for the removal of tarsal tumours; 5 for the removal of deformity of staphyloma; 3 for the removal of tumour in the orbit; 2 for osteal abscess; 1 for extirpation of the eyeball, on account of malignant disease. In addition, several hundred minor operations were performed.

**ROYAL ORTHOPÆDIC HOSPITAL.**—The daily attendance of out-patients exceeds 100, the average number annually being 1600; and the number admitted from the commencement exceeds 21,000. Out of this large number, it is stated, not one death has occurred under treatment, neither has there been any instance of permanent suffering or injury.

**LOCK HOSPITAL LONDON.**—Patients treated, from Jan. 1747, to 31st Dec. 1857, 74,389. In-patients cured from 31st Dec. 1857, to 31st Dec. 1858, 333; out-patients ditto, 2187; in-patients, 31st Dec. 1858, 52; out-patients ditto, 269; died, 2—2843. Making a total of 77,232.—**ASYLUM.**—Admitted from July, 1787, to 31st December, 1868, 1555; restored to their friends since the opening of the institution, 309; placed in respectable service, ditto, 391; died, ditto, 22.

**GLASGOW ROYAL INFIRMARY**—When the buildings at present in progress are completed, the accommodation will be much increased. Number of beds, 600. During the year 1858 the number of in-patients treated was 3500. Out-patients: 10,422 were treated at the dispensary. Operations during the year, 185; amputations, 60; excision of tumours, 32; excision of bones and joints, 8; reduction of dislocations, 23; lithotomy, 13; various, 49.

**THE LYING-IN HOSPITAL, RUTLAND SQUARE, DUBLIN.**—This hospital, established in 1745, and chartered by George II., in 1756, is the largest of the kind in the British dominions, and contains 130 beds, 15 of which are appropriated to the diseases of females. About 2000 women are annually received into the institution.

**A TABLET TO ORFILA IN HIS NATIVE PLACE.**—A medallion portrait of Orfila, in Carrara marble, has just been placed on the house where he was born, at Port Mahon (Balearic Islands). Under the tablet is written, in Spanish—"Don Mateo Orfila y Rotger was born in this house on the 24th of April, 1787."





# THE LANCET.

Journal of Medical, Surgical and Chemical Science and Practice, Criticism,  
Literature and News.

MR. WAKLEY, M.P., EDITOR.

J. HENRY BENNET, M.D., J. WAKLEY, JR., SUB-EDITORS.

IN TWO VOLUMES ANNUALLY.

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No. 6.

## OPENING OF THE MEDICAL SESSION, 1859-60.

### ABSTRACTS OF THE INTRODUCTORY LEC- TURES DELIVERED AT THE VARIOUS MEDICAL SCHOOLS OF LONDON.

#### ST. BARTHOLOMEW'S HOSPITAL.

##### INTRODUCTORY ADDRESS BY MR. LUTHER HOLDEN.

The session at St. Bartholomew's Hospital was inaugurated in the usual manner. The several professors, the resident students and a large number of distinguished visitors, were hospitably entertained by Dr. Martin, the Warden, in the hall of the College, after which they adjourned to the anatomical theatre, already densely crowded, to hear the introductory address, which was this year delivered by Mr. Luther Holden; at its close, the great hall was thrown open to the whole assembly.

Mr. Holden commenced by saying that he felt honored in having the privilege to deliver an inaugural address to the oldest and the best attended medical school in the kingdom. The numerous attendance of students was a source of pride to themselves, and they also felt a pride in the antiquity of their institution; but it was the combination of those two elements of strength which enabled them to resist the encroachments of an innovating Legislature, which paid little regard to what was prescriptive. He was happy to say, however, that the treasurer and the trustees were ever careful to provide for the wants of patients and students, to suit all the appliances of the hospital in the advanced stage of medical science; so that, whenever the threatened ordeal of legislative interference came upon them, the hospital of old Raine would still be able to meet it, and pass through it with increased glory. It was, however, to those who were there for the first time that evening that he principally wished to address his remarks. In all

friendliness he wished them welcome to St. Bartholomew's. He wished them welcome to what was to be their home for some time to come—for a home it would be to them, if they came there in the same spirit that the hospital received them, with a zeal and earnestness, and a determination to turn their time to the best account. If there was amongst them one who could not lay his hand on his heart and say that that was the spirit in which he came amongst them, he would say to him, "Depart at once; stay not with us." From such a man the hospital could expect no credit. His stay would be unprofitable to himself; and not only that, he would also be the nucleus of incalculable mischief to his fellow students. They were now entering upon a profession the grandest it was possible to conceive. What other profession in the world had such a large range of study?—What other profession had been so active in dispensing benefits and blessings upon mankind?—Well might they say with the poet—

"Qua regio in torris nostri non plena laborus."

Entering upon their career, he would, at the expense of dullness, venture to offer to them a few practicable observations in the shape of advice. Above all things, he would advise them to consult the book of Nature—to see how things worked—to try and discover the motives of her action; for it was by taking that course that they would best be able to aid her when she required assistance. They should make practicable anatomy the pillar and the backbone of their medical and surgical studies. They should not depend upon manuals for the acquisition of that knowledge, but seek for it in the dissecting-room, and afterwards apply to their books if they wished to collate their own ideas with those of writers upon the subject. He would advise them, too, to take notes of all they heard from the lecturer or from the demonstrator. They should write them out in the evening, and review them every week, for it was by such self-training that they would

make their knowledge a reality, and not the ghost or shadow of medical science. The practice of writing out would not only imprint the subject of study upon their minds, but it would also give them an easy and graceful style of writing; for it was in writing, as in general behaviour and address, elegance was acquired by observation and imprinted by habit. (A student, evidently a novice, for he was not aware that half-and-half is the peculiar beverage of the faculty, seeing the lecturer take a draught of water, cried out, "Give him beer.") Mr. Holden, taking advantage of the interruption, said he wished to put the students on their guard against a difficulty which he and all others who joined the profession, to make themselves master of its details, they would, after four or five weeks of labor, find facts so accumulate upon them, and the paths of science they had to tread seemingly so intricate, that they might become despondent, and have recourse to what is called a turn of London life. He cautioned them against that, for he knew that at their time of life, with little experience of the world and strong passions, how easy it was for them to be led into dissipation, from the baneful effects of which it would be impossible for them to recover. If they took that course, they would lose the whole of their first year; and, as they had only three years for study, they would find that, even with the greatest industry, they would not be able to prepare themselves for their examination. Their professional occupation would bring them into intercourse with all classes of society. It was therefore necessary that they should take care that patients who were great and noble should find them elegant and accomplished gentlemen, and that the poor should find in them kind and sympathizing friends. Everybody would be applying to them. The doctor was consulted in every case. (A laugh.) The late Duke of Wellington, when he was appointed Chancellor of the University of Oxford, had, according to custom, to deliver a Latin speech, and, for once in his lifetime, the great Duke found himself at fault, and applied to his physician, and it was creditable to the profession that his physician was competent to the task. In the same way, they would be consulted on matters independent of their profession; and as professional success very frequently depended upon attention to matters that might at first sight appear trivial, it would be for their advantage if they acquired a demeanor gentle and courteous to all. The late Sir Walter Scott had observed that the country doctor was the worse paid and worst cared-for animal in existence, with the exception of his horse. Still, with all that, they were the aristocracy of science; and there was not one of those whom he addressed who might not aspire to fill the presidential chair of the Royal Society, now so worthily occupied by Sir Benjamin Brodie. As they passed through the grand hall of the hospital, they would see the portraits of those who had shed light and lustre upon the institution,

and upon the medical profession. It should be their ambition to imitate them. It was said of the Romans of old, "*Quum majorum imaginibus intuerentur ad gloriam accensi fuerent.*" In the same way, the sight of the great worthies of the profession would, he hoped, stimulate them to rival their renown. They might also take lessons of encouragement from their predecessors of a more recent date—from those who, a few years ago, occupied the benches before him, who went out in the course of the late war, and dying in the Crimea, showed their devotion to their profession and to suffering humanity. He hoped, however, that their career would be one of peace—that they would keep the light of science burning, like the Persian fire upon the hill tops, and that, imitating the Grecian youths in the games of old, they would pass on the burning torch from one to another, until the illumination was complete.

### CHARING-CROSS HOSPITAL

#### MR. TUSON'S ADDRESS.

The introductory lecture was given by Mr. Tuson, Professor of Chemistry. The theatre of this School was well filled by visitors, as well as by the lecturers, scholars, and old students of the hospital.

The lecturer, in opening his address, which was heartily applauded throughout, dwelt upon the great difficulties and responsibilities, as well as pleasures, with which the profession of medicine abounds. He remarked that, although the various studies and accomplishments required by students are far more extensive than formerly, yet that by the thorough working of the new Medical Act the profession will be cleared of its burden of quackery, and full scope allowed for the legitimate practitioner.

In calling the attention to the new regulations respecting the education, both medical and general, now necessary, the lecturer considered the five years' apprenticeship required by the Hall too long by half, but that the time of study at a medical school might be increased with benefit to the student. He also spoke of some advantages which a small hospital class possessed over a large one, the opportunities of intercommunication between teacher and pupil being far more numerous in the former instance.

After greatly amusing his hearers with some humorous anecdotes, chiefly relating to chemistry, the lecturer exhorted the students to a diligent attendance on classes; and while deprecating the practice of taking long notes of lectures, he recommended them to study earnestly in their works of reference the subjects discoursed on by their teachers, as the only way of obtaining a lasting knowledge of their profession.

Mr. Tuson then referred at some length to the value and influence of chemistry on the career and practice of the physician. After speaking of the great importance of this branch of study, he cautioned his hearers against placing too im-

plícit reliance upon it, and concluded an able address in the following words:—

"Another reason why medico-chemical researches have not been more numerous and trustworthy may be inferred from the fact that the physiology and the pathology of the chemist are frequently very weak, easily and of course readily pulled to pieces by those who have specially devoted themselves to those subjects; while the chemist as often returns the compliment by showing that his science, as treated by the physiologist and pathologist, is in the same weakly condition: in other words, we seldom, if ever, find that which is most desirable for the successful advancement of medico-chemical knowledge,—viz., a sound theoretical and practicable acquaintance with chemistry, physiology, and pathology, united in the same man.

"That which I believe would tend very much to ameliorate the present condition of medical chemistry would be for those studying and practising medicine as a profession to devote more time to the laboratory, where, according to the present arrangements, they only acquire a smattering of chemistry. I further believe that if this suggestion were to be followed out, the knowledge acquired would be the means of releasing medicine of much of its empiricism, and of inducing investigations to be made which in time would prove of the greatest value, not only to science, but to humanity in general. By some, students especially, chemistry is regarded as a sort of bugbear or interloper, and they neglect the study of it altogether, principally because they have not sufficient patience to master the preliminary details of the principles and practice. There are others again, who expect chemistry to supply the place of more useful knowledge, and rely too much on it for indications of the nature of disease and the means for its removal. Now, admitting, as I do, the great benefits which would accrue from the medical man becoming more intimately acquainted with chemical principles and practice, I would nevertheless advise all those who apply to it for assistance to do so freely, but with care and caution, and to endeavor to remember a remark of Coleridge,—that 'Truth is a good dog; but beware of his barking too close to the heels of an error, lest you get your brains knocked out.'

"In conclusion, I have to remark that if those gentlemen this day commencing their studies only conduct themselves in the highly gratifying and exemplary manner in which those of last year did, the pupils of Charing-cross Hospital may well be held up as a pattern to those of other schools, and be the means of depriving the medical student of the bad name he at one time so justly deserved; and I have to hope that those who are strangers to the metropolis, while they at proper times and seasons avail themselves of harmless sports and amusements, will avoid participating in those vices which the conscience of every man, young or old, tells him

will not only unfit him for his work, but detract from his character as a gentleman."

#### ST. GEORGE'S HOSPITAL.

ADDRESS BY MR. H. C. JOHNSON.

The introductory lecture was delivered by Mr. Henry C. Johnson, in the presence of an unusually large number of students, many of the most eminent medical practitioners at the west end of London, and many of the governors and well-wishers of the charity. We noticed a great number of "new faces" as well as old ones, and the benches were crowded up to the ceiling of the theatre.

The lecturer, who is the junior surgeon of the hospital, gave his address in a clear, unhesitating, and impressive manner; and as he directed his words in particular to the younger part of his audience, he was attentively listened to by all who were then in the lecture-room for the first time. The subject matter of the address was thoroughly practical. After enunciating definitions and an epitome of the various divisions of study which go to make up the complex whole to which the student's energies and powers of mind have to be directed, and which at his first entrance into the struggle must of necessity appear so vast and bewildering, we were glad to hear him warning the student against absolutely relying upon anything but his own exertion and application, seeing that all lecturers and all teachers were themselves, even to the last, but learners in the great school of human knowledge and truth. He singled out three subjects to which he urgently admonished the student to pay special heed—namely, dissection, clinical study, and pathology, showing how necessary these were to the successful or even ordinary practice of the medical man, and how completely all other studies were but collateral and adjuvant. In addition to much good and wholesome advice regarding purely scientific and professional studies, the lecturer went on to point out the imperative necessity under which the student was placed of cultivating a fitting spirit and behaviour with which he should follow his pursuits, especially urging the call for a decorous and discreet manner at the bed-side of the sick man at those times when even the most trifling and minute points are liable to be misconstrued by the patient, and the slightest word, gesture, or look interpreted as indicative of his condition and prospects.

Mr. Johnson gave due weight to his words by sundry apt and varied quotations, pressing into his service many moral, philosophical, and medical writers, and sought to impress more vividly the minds of his hearers by directing attention to the names, lives, and histories of many who in past times have, as physicians, surgeons, and scientific men, adorned the list of pupils and medical officers of the hospital with whom the new student was now associating himself. Of such were Cheselden, John and W. Hunter,

Young, Home, Baillie, Hope, Pemberton, Keate, Brodie, and many others.

The lecturer concluded by mentioning the names of those students who, in the past session, had been successful in carrying off the various rewards of industry, ability, and good conduct; and enumerated the various exhibitions, &c.—prizes which the authorities had it in their power to offer for competition. We will only allude to the “Brown Exhibition” of £40 a year, tenable for three years; three prizes for twenty guineas each; besides the “Brodie Prize,” the “Thompson Medal,” the “Powell Prize,” and “Sir Charles Clarke’s Prize.” The lecturer paid a passing tribute to the excellencies of the late Sir C. Clark, whose stipulation as regards his prize, which was to be awarded for good conduct, was thoroughly indicative of his character.

#### GROSVENOR-PLACE SCHOOL OF MEDICINE.

##### INTRODUCTORY LECTURE BY DR. COCKLE.

The subject selected for the address was “The Present and Past Phases of Physic.” The lecturer remarked that if the actual phases of medicine were analyzed, five sections might be discovered, which, though passing more or less into each other by insensible degrees, still presented distinct centres of inquiry.

The first division is, working on the basis of a refined physiological pathology, its proposed object being to solve the higher problems of organic being, and from such solution to deduce a general theory of disease. This school considers its science the sole rational basis of therapeutics.

The second division includes those who, exercising their reasoning faculty as to the causes and *modus operandi* of morbid agents, superadd the use of such remedies as experience has sanctioned. This is the doctrine of rational empiricism.

The third division comprises those who, investigating the general etiology of disease, aim at the removal of such disease by the strict enforcement of sanitary regulations. This is the hygienic school.

The fourth division enumerates those who, though studying minutely the causes and symptoms of disease, trust mainly to the innate power of the organism to repair its injured mechanism. This is the school of expectants or naturists.

The fifth division embraces those who distrust our actual therapeutics—that is to say, they, without denying the action of medicinal agents, contend that with organs so delicately attuned, and consequently so liable to perturbing causes of such varied nature, it is impossible to attain a criterion; in other words, we have no means of distinguishing the exact times and conditions under which such medicines can be successfully employed. Skoda, the head of the Vienna school, is the great advocate of this the Pyrrhonic or sceptical sect.

The lecturer then rapidly surveyed the history of medicine, and showed how all these

schools had their origin in the past. The physiological and pathological in the labours of Vesalius, Harvey, and Bonetus; the rational empiricism in the works of Hippocrates and Sydenham; the hygienic in the works of the same authors; and so on with the rest.

Returning to the modern epoch, he put the questions—Which of those schools is *the* one for the modern student?—is there one? He then proceeded to show that all have, with their value, their meaning, also their errors; and to elucidate the fact that the student who wishes to practise his profession on the most trustworthy principle will follow out an eclectic tendency. This recommendation led to an analysis of what each school or sect had done in its way. We cannot follow the lecturer through all his laborious and yet plain matter of illustration in this respect. But one illustration will indicate the tenor of this part of the discourse. He showed, in speaking of the “expectants” in medicine, that in one particular they were correct in their practice, and that such practice was based on a secure, because on a natural, deduction. It was the tendency, he said, of some diseases to get well spontaneously. The pyrexiae and other zymotic diseases, pneumonia, pleuritis, and pericarditis, occurring in healthy persons, are of this nature; and if diseases so important as these pursue their cycles without destroying the organism they invade, it may be fairly deduced that, as our knowledge of the natural history of disease progresses, others may fairly claim the right of addition to the list. In the treatment of these, therefore, the eclectic may learn a lesson from the expectant system. But the advocates of this system have, as a whole, generalized too vaguely, and have carried their doctrine out of the sphere of its true utility. They have, in fact, ignored the all-important truth, that some diseases tend to death, as naturally as these to resolution; thus showing that the old dogma of a “*vis medicatrix naturæ*” holds no sound position in science. Diseases of the class just alluded to include constitutional cancer, hydrophobia, and extensive rupture of the heart and great vessels. Here the expectant plan of necessity fails. In such cases, the physician must not alone be the “minister,” but the “*magister naturæ*.”

In treating of the sceptical school, the lecturer gave its ministers but little commendation. He remarked that it was a system cold, cheerless, and hopeless; and urged that, for the successful practice of medicine, there must be annexed a belief in its value as a science. Throughout the address there breathed a fervent admiration of the masters in medicine; and a special tribute of respect was paid to those who by their exertions have removed diseases from the land by directing science to the removal of the sources of disease. Here an apt illustration was selected, in the history and annihilation of that once fatal pestilence, jail fever. This malady, a form of typhus, once



infested every prison in the kingdom. From the judge in his ermine, the advocate in his robe, to the juryman in the box, all sought in vain, by power of mystic rite, to exorcise death. The pioneers of sanitary science, led on by the intrepid Howard, traced out the cause, and by showing the effects of the admission of pure air into these pest-engendering abodes, erased jail fever from the nosological calendar. The peroration ran, in substance, as follows: "While it is the duty of the student to enter the eclectic ranks, let him avoid that pseudo-eclecticism that, as it were, selects mechanically and without reserve the latest theory; let him rather follow that, the premises of which, challenged by the intellect, are made its own by right of mental conquest."

### GUY'S HOSPITAL.

#### DR. HABERSHON'S INTRODUCTORY LECTURE.

He spoke of the varied aspects of the medical profession, and referred to some of the reasons which induced many to join its ranks; as, for instance, the opportunity of acquiring position and honorable status in society, and of obtaining wealth or a competency in life. He then dwelt briefly upon the varied subjects of scientific inquiry within its sphere, and the interest of its allied sciences. It was compared with other professions, in its laborious work and benevolent character, having its reward in itself, and elevating man's noblest faculties, whilst it benefited others; in its higher aspect, that it was the pioneer of the Gospel of Christ. The external benefits of the profession were then shown to be always accompanied with intrinsic good to the practitioner of its science, and the mental culture and exercise which its study afforded were regarded as a superior attainment, and the source of greater satisfaction than the acquirement of truth itself. The vigorous mental exercise in attaining knowledge rather than the mere collation of facts, was represented to be the object of education. It was then shown that medicine had been influenced at every period of its history by the condition of science generally as existing at that particular time; that the Greek and Roman philosophies had modified in their time medical opinions; that great advances in mathematical science had exerted their influence. The philosophy of Bacon prepared the way for Sydenham; and the revival in other sciences had been simultaneous with the brilliant discoveries of Hunter. The development of general laws was then shown to have had a greater influence in other sciences in enabling them to lay aside the encumbrances of earlier periods; modes of thought and research were regarded as receiving the impress of national peculiarities; and that in individual investigations the characteristics of each mind were manifested. The slower method of inductive philosophy was urged, rather than mere

hasty generalization; but the injury of incorrect statistics in misleading the mind and retarding the advance of sciences was also pointed out. The intimate connexion of other sciences — those of mechanics and statics, of chemistry and of electricity — was then referred to, and man shown to be more than a mere mechanism — an intelligent, thinking being. The importance of bearing this fact in mind in the application of science to the treatment of disease, as well as in explaining the apparent uncertainties of daily practice, was dwelt upon. In the mode of commencing the study of the profession, the great desirability of not undertaking too much at once, but of doing everything well, and the right division of labour were strongly urged. The value of self-reliance in thought, observation, and practice, and especially of sterling morality and of true religion in promoting earnestness in study, and happiness in life and heart, was insisted upon. The stability of moral as well as physical laws, and their certain results, were alluded to. And, in conclusion, the lecturer adverted to the influence which one mind must ever exert upon another in the mutual intercourse of daily life and study.

### KING'S COLLEGE.

#### PROFESSOR MILLER'S INTRODUCTORY ADDRESS.

This school opened with an introductory address by Professor Miller in the large theatre of the College, at two p. m. As that hour approached, the arrival of students, old and new, presented the usual cheerful scene of mutual recognitions. The gathering in knots of twos and threes, the shaking of hands, and the general appearance of health and vigour, recalled to our mind the enthusiasm of past years, not extinguished, but tempered by subsequent experience. Shortly after two o'clock the Rev. Dr. Jelf, the Principal, accompanied by Mr. Bowman, Professors Partridge, Budd, Beale, and Mr. Lee entered the theatre, followed by Professor Miller, and were received with every demonstration of esteem and respect.

After a few preliminary remarks, the lecturer proceeded to point out the relative duties of professors and students. Of the former, to guide his class, by presenting a connected general view of the particular department of study he professes to teach; to kindle enthusiasm and emulation, and to afford assistance at all times by answering, if possible, such questions as may be necessary to clear up difficulties. The student, on the other hand, should complete, by his own self-teaching, the subject taught in the lecture-room. The mind is not a *carte blanche*, merely to receive impressions and the opinions of others; but the knowledge of an individual should be made his own by continued thought, and assimilated by mature reflection. With this end in view, the attendance on lectures should be punctual and regular, so as not

by occasional absence to break the thread of the argument; and note-taking of the more prominent and important facts would prove of great value to aid the memory. Daily study, not too prolonged, but regular and accompanied by habitual exercise, would preserve both body and mind in that healthy condition of tone and temper, which are indispensable for any continued effort. The learned professor here recommended the habit of early rising, say at half-past five A. M.; but this suggestion was received apparently as a joke, and caused great laughter, although the sincerity and earnestness with which the recommendation was made are strengthened by the example of John Hunter, who, without the cool hand of the morning, could never have made the minute dissections and preparations which form his immortal museum.

Anatomy, physiology, and chemistry, were very properly laid down as the foundation of all exact medical knowledge. The study of healthy function and structure prepares the way for the observation of their diseased conditions, and our knowledge of herniæ was adduced in favor of the study of anatomy. Minute anatomy, as made known by the microscope, lies at the root of a correct physiology; and the observations of Bowman on a minute structure of the kidney, and those of Kiernan and Beale on that of the liver, have done much of late years to elucidate the functions of these organs. The relation of chemistry to physiology was illustrated through sanitary science, as supplying data for regulating ventilation and drainage; and in respects of therapeutics, our more perfect knowledge of morbid conditions of the urine and derangements of the digestive organs was cited; while in relation to materia medica, the resources of chemistry are very obvious. Materia medica are the tools of the practitioner; but the tendency of the present day was to undervalue the efficacy of medicines, and to trust to the curative operation of nature. Botany supplies us with vegetable medicines, and therefore its alliance to practical medicine needed no comment. A worthy tribute of respect was paid to the memory of the late Professor Henfrey, and the survey we have epitomized of the preliminary branches of medical education was concluded by adverting to the nature and object of forensic medicine.

The special importance of clinical observation of disease, and of clinical teaching and note-taking, was duly insisted on; but here, and throughout the lecture, we noticed one grave omission; the supreme importance of pathological anatomy was not inculcated, nor even alluded to.

We make this remark with no motive of ungenerous criticism, but with a feeling of sincere regret that in one of our largest London Schools of Medicine the importance of every preliminary department of study should have been advocated, while the paramount claims of the one pursuit most contiguous to practical medicine

and surgery should not have been recognised. As well might we seek to discover the origin and cause of a fire by merely witnessing the raging flames, as endeavor to acquire an exact knowledge of disease by clinical observation alone, without the correcting aid of post-mortem examinations; and in relation to operative surgery, the destructive alterations wrought by disease almost or altogether efface the scene with which the mere anatomist is familiar. The selection of herniæ as illustrative of the value of anatomical study was singularly inappropriate, for in this and numberless other instances all the importance attributed to anatomy should be transferred to *pathological* anatomy. The teaching of John Bell—more than fifty years since!—contrasts with that of last Saturday at this school.

"It were better," said he, "that the surgeon had no conception of a hernia, an aneurism, or a hydrocele, than what he obtains from demonstrations of the peritoneum, the abdominal ring, the tunica vaginalis, or the humeral artery; for on the anatomist's table he sees those parts under forms which, through all his professional career, he is doomed never to recognise again, but to look for them in vain in all his own operations and those of his friends, and that, too, in the most critical exigencies, where they should serve as the mark and limit of the incisions. If the bones are demonstrated, they are displayed, clothed with their muscles, and connected by their periosteum with the surrounding parts; they are not represented as parts of a living system, nourished by vessels, and subject to changes and diseases analogous to those of the living body. These are conceptions which the surgeon attains by slow and painful experience, for his teacher aims only at making him know and remember processes, and grooves, and holes, which to know is of no importance, and to remember impossible. The practical surgeon, indeed, learns by experience the changes of which those apparently inanimate parts are susceptible; but while he is observing how tumors rise and vanish, are produced by disease or cured by remedies—while he is learning to discuss the tumors, to cure the ulcers, to destroy the dead and to support the living parts of a bone—while he is acquiring by experience all that he should have been taught, all that makes anatomy useful, he believes that he is forgetting anatomy because he is forgetting a Gothic and barbarous system of names—remembers no longer holes and hollows of no import, and is exchanging the pedantic lessons of the schools for a higher kind of knowledge."

We commend these principles to those students who are desirous of becoming, not botanists, chemists, anatomists, or physiologists *alone*, but medical and surgical practitioners.

## LONDON HOSPITAL.

INTRODUCTORY ADDRESS BY MR. G. CRITCHETT.

The lecturer commenced his discourse by observing that if there was one day of the year which deserved to be held especially sacred by the medical profession, or that combined more interesting recollections, more endearing associations, than another, it was that on which they met in their various medical schools to commence and inaugurate their winter studies. All such meetings had a peculiar significance, and the philosopher might read in the various gatherings of a nation, an important page in the history of progress and of civilization. The Great Exhibition recorded improvements in skilled labor, and the large scientific gatherings promoted the advancement and directed the status of useful knowledge. All, however, were forced to admit that there were few gatherings more interesting, and few occasions more important, than the one which had that day brought them together. The medical profession was carrying on a great and noble work. Not only was disease combated and suffering allayed, but pestilence was traced to its lurking-places, and the laws of health were enforced and explained. The important body of men who were toiling to accomplish all that, were diminishing in number. Each year made sad havoc in their ranks, as they were constantly exposed to contagious diseases, and often went forth in the spirit of the missionary, encountering the death of the martyr. That was, therefore, an important day when the country sent up fresh recruits to fill the ranks of the profession, and supply the demands of the army, the navy, the merchant service, and the colonies. It was by the fresh infusion of young life, vigor, and enthusiasm, that the profession was from year to year renewed and sustained, and he therefore held out the hand of welcome to those who were now about to offer on its altar for the first time the sacrifice of their energies. What a bright and useful career might that movement be opening for most of them! How gladly would some who now wandered about with blighted hopes and ruined prospects, and haunted by the spirit of their prostituted powers, recall the day when they first entered upon the profession. Although none of them might desire to lift the veil or look into futurity, yet, speaking from his own experience, he could tell them that their success and happiness in a great measure depended upon themselves, and if they could only combine some of the settled convictions and strong will of a mature age with buoyant, elastic energy of youth, a fine result might be expected. That being the case, he should endeavor to place before them his conceptions of a model student in the various stages of his life, leaving it to each of them to adopt the portions best suited to their peculiarities, and to appropriate such hints as might be profitable or suggestive. Having received the education of a gentleman, an education in which the functions of the body,

the mind, and the heart had been actively exercised and developed, in which the sinews of thought had been strengthened, habits of attention and concentration acquired, and respect for the feelings and opinions of those older and wiser than himself inculcated and practised—recognising the practical character of the profession, he commenced the study of the healing art in a school connected with some large hospital—three years would have to elapse before he would incur the responsibility of coping with disease; and as a vast field of scientific knowledge was opened over that period, which it would be necessary for him to travel, a gleam from every day of that three years ought to be made to contribute a fair share to the general stock. With that view he associated with those who were disposed to work, sought the friendly advice of the various professors, attended them both in the hospital and in the school, and cheerfully submitted to an authority which was exercised in a friendly spirit, and with a view to promote his own welfare. At first everything seemed to him strange and unintelligible, the subjects of study numerous and complicated, some of the lectures dry and unsatisfactory, many of the terms employed difficult and confused, and some of the practical and experimental departments rather repulsive; but through all he worked sternly and steadily, attended the lectures regularly, and endeavored to organize and arrange in the evening, to think over and read over, that which he had collected during the day. He spent the interval between lectures either in the dissecting-room or in the hospital. He familiarized his eye with the form, aspect, and structure of the body, both surgical and microscopic, his ear with professional terms or technical language, and his mind with the phenomena of diseased action. Thus he almost imperceptibly took in professional knowledge through each of his senses. He breathed a professional atmosphere, and grew and fructified in his student life. Facts that were at first hard, dry, confused, and chaotic, were passed by him through a mental, vitalizing process, from which they came out living principles. As the laws of physics and chemistry unfolded themselves to his mind, in all their exactness, and in their numerous applications to the fine arts or to manufactures, to hygiene, to the detection of poisons and of disease, and of the active principle of drugs and the laws of those physical forces with which they were surrounded; it seemed, in fact, as though he could linger at the very threshold of his profession, to collect the scientific wealth scattered before him; but other sciences claimed a hearing, each interdependent, mutually illustrative, and combining to build up and illuminate the science of medicine. Botany, materia medica, anatomy, the study of the laws of life and organization, healthy and morbid physiology, in their turn, claimed his attention. With this preliminary knowledge he commenced the study of medicine, surgery, and midwifery,

under able professors, who illustrated in the wards of the hospital the principles and the practice they inculcated in the theatre or lecture-room. It was there he saw the advantage of having joined himself to a large hospital, as it afforded him ample opportunity of verifying at the bed-side the instruction he received, and no hospital in England was in that respect superior to the London Hospital. Having now a keen relish for his profession he acquired dexterity in manipulation, quickness of perception, calmness and precision of judgement—the hand, the eye, the ear, the mind, were all by degrees carefully taught and disciplined to perform their due share in detecting disease, learning its physiognomy and its various physical signs, and in working out the practical details of treatment. Passing from surgery to medicine, he stepped the bridge which divided the seen from the unseen, and learned how delicate was the offshading of the one into the other, and how uniform and fixed were the laws that governed both. Here diagnosis was the first study; the ear had to be educated to distinguish between healthy and morbid sounds, secretions had to be analyzed, chemistry and the microscope brought into requisition; the physiognomy, the pulse, the tongue, the skin, the temperature of the body, each and all contributed their quota in spelling out disease; and, where opportunity permitted, morbid anatomy and histology threw the last crowning light upon the case, and gave to it a scientific completeness. Passing from the general hospital he went to finish his education in search of all the knowledge which was to be obtained in those of a special character, as the hospital for diseases of the eye, where, owing to the introduction of the ophthalmoscope and recent surgical triumphs and discoveries, diseases which a few short years ago resulted in blindness were now brought under the influence of the curative art. Having thus completed this portion of his professional education that preceded his formal examination before being allowed to enter upon practice, he felt a strong and well-grounded confidence that he could pass that ordeal satisfactorily, without requiring any cramming process to compensate for the loss of legitimate and steady study. All this was not to be accomplished without a great deal of resolute will and self-denial, an abnegation of those pleasures which were at once the most seductive and the most vitiating. He did not wish to see the student debarring himself from rational enjoyment at suitable times. Ample sources of enjoyment were to be derived from the healthy exercise of the faculties, bodily and mental. Having thus sketched the career of a model student, Mr. Critchett followed him into professional life, of which he drew a very able sketch; and concluded with some practical reflections, which were thoroughly appreciated by the students to whom they were addressed.

## ST. MARY'S HOSPITAL.

ADDRESS BY MR. URE.

In commencing his lecture, Mr. Ure said that five years had now elapsed since the Medical School of St. Mary's Hospital was opened, and, under the Divine blessing, the enterprise had met with very great success. He recommended the pupils not to rely upon what is called genius, but on individual exertion. He cited, as examples of untiring industry, the illustrious Hunter, "whose dust," to borrow the language of the poet, "now sleeps with kings, and dignifies the scene;" and Sir. Astley Cooper—a man whose name was "familiar in our mouths as household words," who rose through the profession to fortune and to fame, and who, at the period of his life when his days were unceasingly occupied by the demands of his public and private practice, when in attendance on his Sovereign, on the first minister of the Crown, and on titled dignitaries of the land, would repeatedly spend the greater part of his nights in anatomical research.

Mr. Ure observed, that the power of scientific benevolence was far greater than that of all others to the welfare of society, and referred to the incalculable benefit which had accrued from the discovery of Jenner—a man of whom it had been justly said, in the emphatic language of Scripture, that "he stood between the living and the dead, and the plague was stayed." He alluded likewise to the immense good which had already resulted from the employment of anæsthesia.—He considered these as brilliant illustrations of that beneficence which flows from and dignifies our art.

He said the profession was one of lofty aspirations, godlike in its object, its end and aim being to remedy disease and prolong human life. Cicero remarked, "*Homines ad deos nulla re proprius accedunt quam salutem hominibus dando*:" a noble sentiment, worthy of the great Roman orator. The sphere of action was unbounded. There was no part of the habitable globe in which man was exempt from the mystery of suffering; there was no age, or rank, or condition of life which granted immunity from being stricken by disease or smitten by injury. "Learn, then, your profession well," he continued, "and understand both its practice and its duties. Your future success will depend entirely on your zeal and industry. Be kind to everyone, and active to oblige. Let it be your ambition to attain pre-eminence in virtue and usefulness. Study to gain the respect of the respected. Associate with those to whom you can look up; whose merits entitle them to esteem. . . Some of you have, no doubt, left behind you companions of youthful years, to whom fortune has been sparing in her gifts, and who are compelled to pass their lives in humble obscurity. Is there, then, no cause for thankfulness on your part? Again, you have friends who anxiously regard your course, and relatives who may have sent you here at some personal sacrifice. Sure-

ly you will not blast their hopes, and mar your future prospects by the mildew of idleness and dissipation." He enjoined them, on becoming members of a liberal profession, never to forget that they were gentlemen, and to maintain a high-toned integrity. If all who joined its ranks were simply determined to act conscientiously for the good of their fellow-beings, codes of medical ethics would become a dead letter. Again, if they were influenced solely by love and respect for truth, rejoicing in truth as a kindred and congenial element, they would never be found arrayed against each other in our courts of law, "pattering in a double sense," or giving utterance to opinions inconsistent with fact, and calculated only to thwart the administration of justice. Such exhibitions tend to lower the profession in public estimation, and subserve, not the triumph, but the humiliation of science.

Mr. Ure observed that, in order to become skilful and accomplished practitioners, they must acquire an intimate knowledge of anatomy. To the physician such knowledge is invaluable in the discrimination of maladies of the nervous centres and of the organs of circulation, in the instance of tumours situate within the abdomen, and in numerous other cases. To the surgeon it is a matter of paramount necessity. It is the key-stone of the art.

In bygone times the study of practical anatomy was beset with great difficulties. A few whom fortune favored found their way to continental schools. The immortal Harvey devoted no less than five years of his life to anatomical pursuits at Padua, and there gained that knowledge which enabled him to develop the grand truth of the circulation of the blood, and thus establish the first principles of physiology and of modern medical science. Even in our own days men did not hesitate to violate the sanctity of the grave, and to peril their lives, in order to procure the means of dissecting the human body. Mr. Ure inculcated the propriety of maintaining a due sense of respect for the dead when engaged in anatomical inquiry. He adverted to the advantage which may be derived from the study of the anatomy of outline in facilitating diagnosis; and insisted upon the vast importance of hospital practice, and of the opportunities thus afforded for minutely observing and accurately discriminating disease. He strongly recommended the practice of taking notes of cases, as a means of enabling the student to acquire a more correct and precise knowledge of the phenomena of disease and injury, and as furnishing a record of his experience to which he might profitably refer in after life. The lecturer concluded as follows:—

If you pursue your profession in right earnest, possessing a sound practical knowledge of its principles, and determined to uphold its dignity, you may acquire both reputation and emolument, you may become the associates of the wise and the good, of the great and the wealthy. Your advice will be sought respecting matters

of weight and moment, on which the happiness of families, nay even of nations, may depend. You will be consulted touching questions of sanitary science, when the health of the community may be at stake; and you will be called upon to institute researches, often of extreme intricacy, in connection with forensic medicine, in which the well-being of society may be deeply involved.

Mr. Ure was warmly applauded in several parts of his lecture.

A *conversazione* followed the delivery of the address, which was numerously attended.

#### MIDDLESEX HOSPITAL.

##### MR. MITCHELL HENRY'S INTRODUCTORY ADDRESS.

The preliminary observations were designed to show that the meetings which annually occur at this time in all the medical schools are not to be regarded as so many isolated gatherings, as they, in fact, constitute the commencement of the great work of medical teaching throughout Great Britain, and thus concern the whole community, whose welfare and happiness are largely concerned in the zeal and faithfulness with which both teachers and pupils discharge their respective duties.

Let us inquire, then, (said Mr. Henry,) what qualities have attended the most successful men in all professions, and let us see if there be not some one or more amongst them common to all. What was it which rendered Xavier and Schwartz, each in his respective church, the most glorious of missionaries; Luther the most formidable of reformers; Bunyan and Wesley amongst the most influential of religious teachers? What was it that inspired the courage and foreshadowed the successes of an Alexander, a Hannibal, a Cæsar, and a Napoleon? What was it that made Cromwell at once the most successful of generals and the wisest of statesmen? What was it that embalmed the memories of Socrates, and Newton, and Milton, and Johnson, and Herschel? What was it that gave the ermine to Eldon, and Thurlow, and Ellenborough? What was it that enabled Arkwright, and Watt, and Stephenson to revolutionize the physical world? What was it that, in their own profession, had rendered the names of Sydenham, and Harvey, and Hunter, and Jenner, familiar as household words? It was—take it as the most solemn truth the history of these men proclaimed—it was that they possessed earnestness of purpose. To them life was no plaything—time was no bauble: and so must it be with those before him; so must it be with the students of divinity and law; so with the soldier and the merchant; so in every calling in life. Let them come furnished with earnestness of purpose, and they would overcome defects of early education—they would certainly compensate for the lack of genius—they would give pledges of success, which were the harbingers of greatness. But to accomplish this, they must

around the tables, they were occupied by relays of visitors intent upon enjoying themselves in a *physical* fashion. We think these seats were in the way of other visitors who wished to procure hastily a draught from the cup "that cheers but not inebriates," but who were obliged by the convivial and sedentary throng to exercise their patience until it could be dispensed to them, and so enable them without further delay to rejoin their medical friends. This was, however, a mere temporary trouble: the greatest harmony and enjoyment appeared to reign throughout the whole meeting.

#### WESTMINSTER HOSPITAL.

ADDRESS BY DR. RUSSELL REYNOLDS.

The lecturer commenced by observing that, to be successful, the medical student must constantly keep his aim in sight. It was, "to so learn the facts and laws of life, in both health and disease, as to utilize that knowledge in every way and to the highest degree for his fellow men." The subject matter of his study, then, was Life; and this was of twofold nature: mind and heart on the one side, limbs and organs on the other. Disease was to be measured by its relation to both elements of man's life; its evil was in proportion to its interference with the higher. Life could not be satisfactorily defined; it could not be known in its essence; but we might learn its facts and laws.

Facts were of two kinds: those of nature, and those of science. The object of study was to render them as nearly as possible correspondent, or identical. For the observation of facts of life, not only common sense and honesty, but much anterior study and information, were required; and with these there were sources of fallacy. The simple sciences (mechanics, chemistry, &c.) were the letters with which to spell the words of the science of physiology. If the letters were wrong, the words would not be right. If the simpler sciences advanced, changes occurred in the mode of studying and facts of life. Besides, however, these difficulties inherent in scientific study, there were others which require much caution to avoid. Facts were not to be confounded with (1) fiction, or pure creations of the mind; mere fancies, having no counterpart in nature; with (2) hypotheses, either legitimate—such as are not opposed by facts, and are susceptible of future verification; or illegitimate—those which do not possess these characters: with (3) opinions, either right or wrong: or with (4) half-facts—either the evidence on one side of a question, or half the evidence on both sides.

Laws of life were arrived at by a knowledge of the facts, and by a supposition or knowledge of the mind. The two classes of laws—moral and social on the one side, and natural or physical on the other—differed in the possibility of disobedience to the one, and its impossibility to the other. The ideas of will and coercion were

present in each. Law contained, *per se*, the suggestion of a plan. The laws of life referred it to a higher source. Law was not to be confounded with (1) mere generalization of sequence; with (2) accidental coincidence; with (3) speculation; or with (4) numerical statements of its results. The statistical law would not bear division; it was true for the multitude, but the proportion became a chance for the unit.

The object of the student of medicine was, so to learn the facts and laws of life as to utilize his knowledge for his fellow men. He must, therefore, frequently reconsider his aim, and keep it constantly in sight. He had to learn by sympathy as well as science; he had also to teach by life, practice and example. He was the exponent of the method of arriving at truth,—namely, the due use of both institutional teaching and individual exertion, and the constant appeal to nature with regard to each. He was, moreover, to show that minor differences in scientific creeds did not prevent him from joining with others to employ common truths for the advantage of his race.

After the lecture, the audience adjourned to the Board-room, where, in the absence of the Dean of Westminster, Dr. Basham, after a few prefatory remarks, delivered the Medals and the Certificates of Honor to the successful candidates:—Mr. Thomas R. Adams, Medal in Anatomy, Forensic Medicine, and Midwifery; Certificate of Honor in Medicine and Surgery. Mr. John W. Middleton, Medal in Physiology. Mr. Arthur Edis, Medal for general proficiency in Anatomy, Physiology, Materia Medica, and Chemistry. Mr. F. Little, Certificate of Honor for general proficiency. Mr. Wm. Slayter, Certificate in Physiology.

The *conversazione* was attended by many old pupils and several Governors, who take a warm interest in the medical school and hospital. Many objects of scientific interest were on the tables.

#### LECTURES ON THE STRUCTURE AND RELATIONS

OF THE

NERVOUS SYSTEM AT THE PERIPHERY, INCLUDING THE NEUROLOGY OF THE ORGANS OF SPECIAL SENSE.

DELIVERED AT THE UNIVERSITY OF GLASGOW.

By JOHN G. S. COGHILL, M. D.

DEMONSTRATOR OF ANATOMY.

#### LECTURE IV.

GENTLEMEN,—In taking up the subject of the neurology of the organs of special sense, I shall commence with—

(a) *The tactile appearance of the skin.*—The skin, or integument, performs three most important functions in the animal economy. It serves as an envelope or covering for the body, protecting the subjacent structures. It constitutes an extensive excretory apparatus, and is also capa-

ble of acting as an active absorbing surface.—And, further, it may be viewed as a most important peripheral nerve-organ, for it contains the distal terminations of nerves both of common and also of special sensibility; and inasmuch as it affords the mechanical or physical conditions necessary for the manifestations of the special sense of touch, it must be regarded as the special organ of that sense. I have already described to you the general terminal disposition of the nerves in the skin as a peripheral structure endowed with ordinary sensibility; I now proceed to direct your attention to the more special arrangement of the nervous element, and its relations to certain minute structures situated in particular portions of the integument, in connexion with which also certain modifications of that texture are met with, in virtue of which structural arrangement it is constituted the organ of touch. It must likewise be remembered, that the integument of the tongue, being of the nature of true skin, and in which tactile sensibility is developed in the highest degree of perfection, is to be regarded as an extension and part of that tissue. The presence of the special sense of touch, in contra-distinction to common or ordinary sensibility, depends on the existence or co-adaptation of three conditions, which, as I have already pointed out to you, obtain in all of the special senses. These conditions are—1st, A special arrangement of the integumentary elements; 2nd, The presence of special structures or organs of minute size appended to the extremities of the nerve-fibres; and, 3rd, The nerve set apart to minister to the special sense. The first of these conditions is answered by the minute elevations or *papillæ* of the cutis vera which are observed projecting from the surface through the cuticle. They do not extend over the entire cutaneous surface, some portions being apparently quite destitute of them; but they seem always to be developed in proportion to the degree of tactile sensibility possessed by the part. Thus on the palmar surface of the hand, especially towards the tips of the fingers, on the plantar aspect of the feet, and on the tongue and lips, where this sense is most acute, they are very abundant. In the first two of these localities they are arranged, with tolerable regularity, in a series of elliptical ridges. The cutaneous papillæ appear always to have been recognised, even by the earlier physiologists, as touch-organs, but in virtue of what particular structural arrangements they subserved that function, no correct opinions, in the absence of actual microscopical examination, seemed to have prevailed. Breschet, writing in 1834, thus expresses himself with regard to them: “L'appareil de la sensibilité se compose à la peau des papilles ou éminences conoïdes formée essentiellement par les extrémités nerveuses, envelopées par des couches épidermiques et les filets nerveux parviennent sous ses gaines nouvelles, se dépouillent de leur nevrilème, et finissent en s'anastomosant entre eux pour former des

arcades.” The papillæ are for the most part extremely vascular. Some of them are very richly supplied with minute bloodvessels, but are destitute apparently of nerves, while others, comparatively non-vascular, have nerve-filaments passing into them. In the latter, or nervous papillæ, in intimate connexion with the extremities of the nerve-fibrils, are found the minute structures—the so-called touch-bodies, or *corporecula tactus*, which appear to form the second element of this special sensory organ.—As these little bodies possess great interest both from their comparatively recent discovery, as well as from the discussions which they have occasioned amongst physiologists regarding their minute structure and special function, I purpose describing them at some length.

The *corporecula tactus* constitute a system of minute structures, whose existence has only within a comparatively recent period been demonstrated by the microscope, and the connexions of which have been correctly referred to the nerves of touch proper, or, as I might otherwise express it, to the nerves of special sensibility. E. H. Weber, whose inquiries into the physiology of the sense of touch are so well known, long before the actual discoveries of these bodies, had already assumed in theory the existence of a special apparatus in the skin in connexion with that sense. He argued from the fact that, while the entire nerve-fibre is the conductor of impressions, it is only the distal extremity of the fibre which has the power of receiving them, or of being, so to speak, impressed or influenced by stimuli; and he held it to be altogether improbable that the simple unmodified extremities of the cutaneous nerve-filaments could be the sole medium of producing sensory impressions so varied and delicate as those of touch. “In order,” said he, “to feel heat or cold, it is indispensable that the expansion or contraction produced by them should act in the first place on the microscopic organs of touch situated in the derma (but which are not yet discovered), and by the aid of these organs on the terminations of the nerves of touch.”\* Such suggestions seem to have directed the attention of Rudolph Wagner to the investigations, and accordingly, when the discovery by himself and his pupil Meissner, of Hanover, was announced, of peculiarly organized bodies situated in the papillæ of the skin, intimately connected with the nerve-fibres entering the latter, it was believed that Weber's anticipations had been realized, and the actual existence of special sensory organs of touch in the skin determined,—with what degree of success we shall endeavour to ascertain. Wagner and Meissner† examined portions of the skin prepared with a dilute solution of caustic soda and with dilute acetic acid, and, as the result of their joint investigations, stated that the so-called tactile papillæ of the cutis were, from the nature of their contents, to

\* Gazette Médicale, June, 1862.

† Ibid, and Muller's Archives, 1852.



be distinguished as vascular and nervous; the former more numerous, and containing capillary vessels about  $\frac{1}{100}$ th of a French line; the latter, (the nervous papillæ,) conical in form, and, in addition to the terminations of the nerves, containing a minute body, the corpusculum tactus (*tast-körperchen*), correspondingly shaped, situated in the axis of the papillæ. Some of the larger papillæ appeared to contain two of these corpuscula coalesced. The nervous papillæ were observed by them to be most numerous on the tips of the fingers, and gradually diminishing in frequency towards the wrist. The corpusculum itself, with regard to its minute structure, was described as being formed of discs or laminæ, super-imposed horizontally, with elongated nuclei, made apparent by the addition of acetic acid, situated between them, with their long axis parallel to the transverse axis of the corpusculum and that of its discs, the whole corpuscle being invested with a transversely striated fibro-cellular membrane of extreme delicacy derived from the second layer of the derma. In the papillæ of a child, four years of age, they measured from  $\frac{1}{10}$  to  $\frac{1}{30}$  in length, to 0.01 to 0.02 in breadth; and in an adult woman their length was about  $\frac{1}{15}$ , and their breadth about  $\frac{1}{40}$ . They also described the epidermis surrounding the corpuscles as possessing a basement membrane. With respect to the relations of these structures to the nerves entering the papillæ, it appeared that each nerve-fibre formed a brush-like expansion by repeated division from one to three or so; the resulting fibrils, still preserving their dark contours, enter the base of the papilla vertically to the surface, and are applied to or terminate in the base or sides of the corpuscle, never proceeding so far, however, as the capillary loops do in the vascular papillæ. Each primitive nerve-fibre, by means of its ramifications, is in this manner connected to a system consisting of several corpuscular tactus.

Kölliker, who, in his "Microscopic Anatomy," had lately described the termination of the cutaneous nerve-filaments in the papillæ, had his attention again drawn to the subject by the observations of Wagner and Meissner I have just quoted, and he shortly afterwards announced\* as the conclusions at which he had arrived from a careful re-investigation of the nerve-terminations in the skin, the following — That the corpuscula tactus, so called by Rudolph Wagner and G. Meissner, do not possess the elaborate structure originally assigned them by their discoverers; that they are not special structures, but merely the somewhat developed axis of the papillary structure, made up of a mass of fibro-cellular or connective tissue, becoming homogeneous externally, so as to present the appearance of a distinct investing membrane, and slightly distinguished from the cortical portion of the papilla by being surrounded with transversely-arranged, spindle-shaped, or fusiform elastic

fibræ with elongated nuclei, giving it a striated appearance, the fibres of the cortex of the papilla being disposed somewhat longitudinally. The whole body, thus constituted, resembled very much certain bundles of connective tissue, surrounded by the spiral elastic fibres found in the corium. They were also distinguished from the whole tissues of the papilla, by being in a more embryonic stage of development as compared with the cutis. He averred that the arrangement of textural elements in question are particularly liable to become altered in appearance, under the action of the chemical reagents employed by Wagner and Meissner in their investigations, and believed that was the source of the deceptive appearances which, as he thought had misled him. From this comparatively humble view of their morphological character, he denied them the title of corpuscula tactus, as involving an unfounded theory as to their function, and preferred to apply to them the term *axile corpuscles*. He stated that papillæ were found containing both nerve-fibrils and capillaries, forming compound papillæ; that other papillæ destitute of the axile bodies contained nerves; that in some papillæ the axile corpuscle exhibited constrictions and other irregularities of form; and further, that the nerve-fibrils never terminate in the corpuscles, but wind spirally round them. Although Kölliker admitted the possibility of the nerve-filaments ending by free extremities, yet he had convinced himself, in some six instances, of the occurrence of distinct terminal loops in the papillæ. He confesses that considerable difficulty was experienced in tracing distinctly the nerve-terminations; indeed, in most cases this could not be effected. Axile bodies were found by him in the red margins of the lips and the point of the tongue, but he could not, however, discover them in the skin of the toes, breast, and back, nor on the glans penis or nymphæ. Indistinct traces of them were found in the sole of the foot, and back of the hand. On the ground, however, of their absence on many surfaces highly endowed with tactile sensibility, he refuses to allow them the high function as organs of touch claimed for them by Wagner and his pupil.

Wagner,\* in his immediate reply to these observations of Kölliker, and in a work† published subsequently, reiterated, for the most part, his original statements regarding the structure and function of the corpuscula tactus. He, however, seems to have somewhat modified his opinions regarding their histological characters, admitting that they are yet probably undecided. He seems to think that Kölliker has never succeeded in isolating and recognising the true corpuscula tactus. He especially maintains the correction of his descriptions of the nerve-terminations, and refuses to admit that in any case the fibres end in the form of loops, as described by Kölliker, the supposed nerve-loops being vascular loops which

\* Mueller's Archives, 1863. Human Histology, Sydenham Society translation.

\* Mueller's Archives, 1863.  
† Neurol. Untersuch., p. 120

have been mistaken for them. He explains the presence of capillaries in nervous papillæ by assuming that a fusion of the two kinds of papillæ may occasionally occur. He also allows the corpuscula tactus to be more widely distributed than he originally held. Nuhn, of Heidelberg, at the same time\* published observations which seem somewhat to confirm those of Kolliker. He frequently remarked constrictions of the corpuscula tactus, appearing as if there were two or more of these bodies super-imposed upon one another in the papillæ. He also believed that he had seen a looped termination of a nerve-fibre without ramification in the papillæ, with a varying relation to the corpuscles, the loops being applied to their external surface in some cases, while in others the loops were situated within them. He also observed the nerve-fibres forming spirals found a corpusculum, but he did not always succeed in tracing them to their termination. To bear out Wagner's opinion, he remarks that he never detected a vascular loop in a simple corpusculated papilla; nor could he ever discover transversely disposed elastic elements, or nerve-fibrils, in papillæ destitute of corpuscula tactus. J. Gerlach, however, in contemporary observations, concludes, from examination of the structures after careful injections, that *all* papillæ have vascular loops; but that they do not, in nervous papillæ proper, extend beyond the base of the corpuscula; and that, in the compound papillæ, they occupy the axis, while the corpuscles lie in the diverticula. He particularly noted the distinctly spiral arrangement of the nerve-filaments in the nervous papillæ. He states that the papillæ are more pointed and conical on the tips of the fingers than elsewhere, as on the face. Lateral diverticula from some of the conical papillæ cause them to present an irregular and constricted outline, and give to them the character of compound papillæ. Gerlach also advanced an original view as to the morphology of the corpuscula tactus—namely, that the filaments resulting from the subdivision of the primitive nerve-tubule, having dark contours and a diameter of about 0.0005''' , are the transverse striæ described by Kolliker and others, which, by surrounding a part of the axis-substance of the papilla with numerous spiral coils, in this manner form the so-called corpuscula tactus; and after assuming this arrangement, he thinks it probable that the nerve-filaments end in loops towards the apex of the papilla. The correctness of this view of the structure of the touch-corpuscles is opposed by Reichert, on the ground that, in preparations made by him, the transverse striæ remained unaltered after treatment with a solution of caustic soda for twenty-four hours, which they would not have done had they been nervous tissue. The account, however, of the structure of these bodies as given by Gerlach reconciles in some measure the conflicting observations of Wagner and Kolliker; and he seems disposed also to take a view of their functions interme-

diate with that of the physiologists I have just named. Meissner\* subsequently entered the field of discussion with opinions somewhat altered from those he had originally advanced. He now described the corpusculum tactus as consisting of a distinct enveloping membrane of the nature of a capsule, filled apparently with an opaque granular substance of a different consistence. In this it was supposed he had mistaken for corpuscula tactus those peculiar bodies described by Reichert as the remains of the Malpighian layer, and to which Wagner alluded as likely to be confounded with them; but I find that the younger Krause,† in a paper published last year, entirely confirms this description. He also agrees with Gerlach in regarding the transverse striæ as the nerve-fibrils arranged spirally round the corpuscle. Contrary to preceding observers, he describes the nerve-filaments as single contoured. In support of his belief in the identity of the corpuscula tactus with nerve-tissue. Meissner instances two cases of paralysis of the sensory nerves, in which he observed the corpuscles sharing in the characteristic degeneration of the nervous elements into fat-globules, as described by M. Waller. He denies, also, the extensive distribution assigned to these bodies by former observers, as in the tongue and margins of the lips. Wagner, in observation still more recently announced,‡ seems inclined to entertain a more simple view of their structure. He regards them as convolutions of the nerve-fibrils in the form of a ball embedded in an elastic substance of some consistence, thus apparently resembling very much Gerber's *nervenknäuel*, to which I have referred in a former lecture. Wagner also described the cortical portion of the papilla as possessing no basement membrane. The subject of this discussion has also been investigated by Corti§ of Turin, by Dr. Dalziel|| of Edinburgh, and with great ability and minuteness by Professor Huxley,¶ who advances some very original and independent views both as to the structure and functions of these touch-corpuscles. The authors I have just named agree for the most part with Kolliker's descriptions, but Huxley has rarely met with capillary vessels in corpusculated papillæ, and he has seen no papillæ containing nerve-filaments without corpuscles. With regard to the nature and relations of these bodies, he has reason to believe that they are formed by the terminal development of the delicate neurilemma described by Kolliker, which enters the papillæ with the nerve-fibrils. "In fact, I believe," he says, "that the *corpuscle* is simply the modified extremity of the neurilemma of the nervous tubules which enter the papilla;"—differing from the Paccinian corpuscles (which I shall describe in my next lecture), in that the neurilemma in the latter is developed on both sides of the

\* Muller's Archives, 1854, p. 61.

† Quoted in Medico-Chirurgical Review, April 1859.

‡ Muller's Archives, 1855, p. 60.

§ Ibid., p. 63.

|| Edinburgh Monthly Medical Journal, 1853, p. 276.

¶ Microscopical Journal, Oct. 1853.

\* Muller's Archives, 1853

nerve-filament, while in the former — that is, in the corpusculum tactus — it is only developed on one side. He further thinks there is the clearest possible reason to believe that the nerve-fibrils have free terminations in the corpuscles, or, in other words, become continuous with the connective tissue of the papilla through the corpuscle, in a similar manner to which he has seen them terminate in the papillae of the tongue of the frog, which was first noticed by Waller. He has not, however, succeeded in demonstrating this in man. Although this view of the morphological nature of the corpuscula tactus is not inconsistent with what appears to occur elsewhere, yet it cannot be borne out by exact observation. The identity of the corpuscle with the somewhat dense and defined axillary portion of the papillae as described by Kolliker is suggested by the preparations I have been successful in making; but the nerve-fibrils, though obscure and not readily followed, appeared to me to terminate in, or perhaps upon, the corpuscle. I have now sufficiently discussed the somewhat dubious structural characters of these minute bodies; let us next attend for a little to their claims as reputed organs of touch.

In accordance with the elaborate structure which Wagner and Miessner originally described these bodies as possessing, their action was believed to be like that of elastic cushions, which intensified the impressions received by them, and conducted to the nerve-fibrils lying imbedded in their substance, as well as coiled around them. In this way, they were enabled to communicate sensations of pressure, and, as Weber supposed, by the expansion or contraction produced in them by changes of temperature, they were enabled to appreciate the various degrees of heat and cold. Wagner\* has, in relation to the functions of these bodies, accounted for the fact that the vascular exceed in length or elevation from the cutaneous surface the corpusculated papillae, and he does so by advancing the theory of an abundant supply of warm blood in the immediate neighborhood of the sensitive papillae being necessary to prevent the sense of touch from being impaired by the temperature of the nervous structures within them being more or less permanently lowered by sudden contact with bodies of a less elevated temperature. He points to a parallelism in this respect apparent in the position of the retina, the nervous structure appended to the optic nerve-fibres, which is bounded by the highly vascular choroid, similar provision being also made in the peripheral expansion of the auditory nerve and other special sensory structures, — a certain elevation of temperature being necessary to be maintained, in order to the sustained exercise of the functions of the nerves of special sense. Kolliker, judging from his own views as to the simplicity of their structure, and the circumstance of all the essential sensory

functions of the skin existing where he was unable to find them, regards them as bodies "which, in consequence of their being composed of dense, imperfectly-formed elastic tissue, confer a certain amount of solidity upon the points of the papillae, and serve as a firm support to the nerves, in consequence of which a pressure which in other situations is not sufficient to affect here takes effect;" and he believes them in this manner to have no more special influence on the nerves of touch than the phalanges and nails are known to possess.

Dr. Franz Leydig,\* in a recent memoir, classes together the Paccinian corpuscles, the Savian bodies of the torpedo, and the so-called *muciparous canals* of the osseous and cartilaginous fishes as homologous organs. Huxley, following up this idea, and viewing the corpusculum tactus as an elaboration of the neurilemma, as he also views the Paccinian corpuscles, places the former at the bottom of Leydig's series; and tracing an analogy between the muciparous canals and the follicles in which the vibrissae (which are found on the lips and eyebrows of nearly all mammalia) are produced, places them at the top of the same series of cutaneous organs of sensibility, the lowest members of which, as I have said, he regards the corpusculum tactus to form. Admitting the possibility of such a graduated relationship subsisting between the different organs I have just mentioned, it must be confessed that the evidence yet adduced in support of it does not seem to me to warrant so positive and direct a conclusion. The identity of all the organs in question with the sense of touch is far from being generally admitted. While agreeing with Professor Huxley as to perhaps a more than general resemblance between the members of his group, I can in the meantime only view them, from their apparent anatomical relations, as organs developed in certain parts of the periphery, on nerves not all cutaneous, to subserve some particular, and it may be, so far as we can speak positively, some very opposite function. But that the corpuscula tactus are special structures having a definite relation to the nerves of the sense of touch — in fact, that they are developed in connection with the papillae and the peripheral extremities of the nerves of touch, and constituting with them the special organ of that sense, I believe there can be no doubt. They are probably a modified development of the neurilemma in and upon which the sensory fibrils terminate, and they subserve the function of touch by placing them under highly favorable conditions for receiving the most delicate impressions, by means of their continuity with a highly elastic body.

At our next meeting, I shall describe to you the Paccinian corpuscles concluding the sensory structures in the skin, and also the gustatory apparatus in the tongue.

## LECTURE V.

## PACCINIAN CORPUSCLES.

GENTLEMEN,—I shall here describe to you the Paccinian corpuscles, because they are met with chiefly on the peripheral extremities of the cutaneous nerve-fibres; although the special function which their anatomical relations and elaborate structure would lead us to infer has not as yet been ascertained, nor even more than guessed at. Attention was first directed in 1830, and by successive memoirs in 1835–30, by Prof. Paccini, of Pisa, to the minute structure and intimate connection of certain small seed-like bodies with the terminations of the nerves of the palm and sole, and occasionally on nerve-fibres in other situations. Little more than their mere existence had been pointed out, in 1741, by Vater, a German anatomist; but as the peripheral relations of the nerve-tubules had not at that time become a subject of much interest, his observations did not excite much attention. Reference was made to the existence and nature of these bodies in 1833 by the French physiologists, Andral, Camus, Lacroix, and also by Cruveilhier. Subsequently to the appearance of Paccini's essays, Henle and Kolliker made them the subject of an elaborate investigation, and named them after the Italian anatomist last mentioned. In our own country, we are particularly indebted to the careful observations of Mr. Bowman, who has accurately examined the statements of his predecessors in the same field, and added much that is new to our knowledge of the subject.

The Paccinian corpuscles are found on nerves belonging both to the cerebro-spinal and sympathetic systems, but are never met with on motor nerves. They are chiefly found clustered on the cutaneous nerves of the palmar surface of the hand, and plantar surface of the foot, more particularly on the sides of the toes and fingers, and are met with sparingly on the *nervus pudendus communis*, on the glans penis and bulb of the urethra, on the intercostal nerves, on branches of the sacral plexus, cutaneous nerves of the upper arm and forearm, dorsum of the foot and hand, and on the cutaneous nerves of the neck. They are abundant in the conjunctival membrane of birds, according to the younger Krause. They are very numerous in the sympathetic plexuses, especially on branches of the solar. Kolliker mentions having met with them on the *diaphysal* nerve of the tibia, two lines from its entrance into the foramen, and also on the largest nerve of the metatarsal bone of the great toe, immediately before it enters the bone. Leydig lately found them in the interosseous spaces of the forearm and leg of birds. They have also been seen on the nerves of the clitoris of the sow by Dr. Mylander, of Helsingfors. These structures may be recognized in the omentum and mesentery of the cat, where they can be examined with the greatest facility, being more regular in outline and more transpa-

rent than in man. They number, according to Harless, about 600 in the nerves of the human palm, and are situated in the subcutaneous fat, previous to the nerves entering the cutis. They become more numerous as the nerve-trunk advances to its distribution. They are generally attached by a pedicle, sometimes as long as one-tenth of an inch; sometimes their axis is parallel to the nerve-fibre, but in other instances their position to it varies from an acute to an obtuse angle. Viewed with the naked eye, they present the appearance of clear transparent bodies, like small seeds, having an irregular oval outline, generally somewhat reniform, or kidney-shaped, as if bent on themselves. Their transparency is interrupted by an opaque-white streak running in the line of the axis. Their size varies from one-twentieth to one-tenth of an inch in length, and about one-half as broad.

The microscopic characters of the Paccinian corpuscles are extremely interesting. They appear to be made up of a set of concentric capsules, varying in number from forty to sixty, and enclosing a longitudinal cavity in the axis of the corpuscle. These capsules present elongated nuclei, and are separated from each other by spaces filled with a clear, serous fluid containing albumen, and said not to communicate with each other. A few of the internal capsules are generally so closely applied together as not apparently to enclose spaces, and consequently present a darkened tract around the central cavity. The capsules are connected at irregular intervals to one another by processes extending across the intercapsular spaces, and Paccini has described a regular ligament connecting them all together at the distal extremity of the corpuscle, which he has termed the intercapsular ligament; Helene and Kolliker deny its existence altogether. The proximal end of the corpuscle attached to the nerve by a pedicle, which conducts the nerve-fibre along with a minute artery and vein; but there are different opinions held as to the manner in which the central cavity is gained. Paccini and Reichert affirm that the capsules are derived from the successive layers of the neurilemma, which become separated from each other by fluid, so as to form intercapsular spaces. By others it is maintained that the capsules are perforated at the base of the corpuscle by a canal with a distinct wall, through which the nerve reaches the central cavity, accompanied by its neurilemma as far as the innermost capsule. When this space is reached, the nerve-fibre becomes flattened and somewhat diminished in size, and presents the appearance of a fine, pale, granular band, or a sharp, narrow line, according to whether the surface or margin is presented to the observer. It is considered doubtful by Kolliker whether this change of appearance results from the mere flattening of the nerve-fibre, with decrease in size, or from the absence of the medullary sheath. After pursuing a course always directly in the axis of the corpuscle, it ends either in a clavate

or expanded extremity, or by dividing into two or even three fibrils, and this is accompanied by a corresponding adaptation of the containing cavity.

Shortly after the publication of Henle and Kolliker's essay, some very curious observations were made by Papenheim\* as to varieties in their structure and relations. He avers that he has frequently seen two nerve-filaments enter a corpuscle, one following a straight, the other a sinuous course, and ultimately uniting at the extremity of the cavity to form a distinct arch, but sometimes also forming two or even three such loopings. He has also met with a Paccinian body, having quite an opaque aspect, depending on a nerve-fibre, filling the canal with arches or convolutions, not less than twenty in number, formed by the fibre twisting upon itself in a most remarkable manner. He has also traced in a few instances two nerve-filaments prolonged beyond the apex of the corpuscle, and meeting so as to form an arch or loop enclosing a space. His observations as to their histological characters otherwise bear out those of preceding writers. He remarks further, with respect to their development, that the capsular structure becomes progressively evolved from the periphery to the centre of the corpuscle, the concentric strisæ becoming first apparent at the circumference. He also refers to their reputed resemblance to the *gangliiformes tumeurs* of M. Serres, which he points out to be quite unfounded. The latter are always larger, present a cellular appearance, have no capsular structure, and the nerve-fibre passes through and is continued directly beyond them. Papenheim is disposed to regard them as a mere hypertrophy of the nerve fibre.

Paccini has traced a resemblance between the knob-like end of the nerve-fibre and a ganglionic cell, to which I have before alluded. The small artery which accompanies the nerve-fibre as soon as it enters the corpuscle sends off capillary loops between the corpuscles, which are continued into the companion vein. Prof. Huxley has lately published a description of these bodies, according to which the appearances already described by so many eminent observers have been deceptive. While he adopts the view of Paccini as to the derivation of the capsule from the neurilemma, he denies the existence of inter-capsular spaces with fluid contents. He asserts the so-called capsules to be merely a mass of fibro-cellular or connective tissue, with the nuclei arranged parallel with the nerve-fibre in lines, and that the central cavity, which was considered to be filled with fluid, or by Todd and Bowman with semi-fluid substance, has solid contents, which Henle, Kolliker, and Leydig have recently admitted, and which Leydig believes to be the expanded nerve-fibre. The views entertained by Huxley as to the simplicity of structure possessed by these bodies are pro-

bably too extreme; they have not been confirmed by any other observer, so far as I am aware, while he has a whole array of authorities against him. That the Paccinian corpuscles are a development of the neurilemma, is more than probable; but that they have any organization of a higher type than that described by Huxley, I have had no difficulty in convincing myself. I have already referred, in treating of the corpuscula tactus, to the position assigned the Paccinian corpuscles in the theoretical series of homologous cutaneous nerve organs of touch, proposed by Dr. F. Leydig and by Prof. Huxley. Dr. W. Krause\* has recently drawn attention to the termination of the sensory nerve-filaments in small round or oval corpuscles, closely resembling the Paccinian bodies, but of simpler construction, which he has named the *terminal bulb*, from the invariable termination, where this could be observed, of the nerve-fibrils in them, varying from  $\frac{1}{16}$ ''' to  $\frac{1}{10}$ ''' in length, and from  $\frac{1}{30}$ ''' to  $\frac{1}{7}$ ''' in breadth. They consist of a central semi-transparent mass of slight consistence, invested by an areolar membrane, containing nuclei. They resemble very much the Paccinian corpuscles as regards modification of form, and the conditions under which the nerve-filaments become connected with them. Dr. W. Krause's observations were principally made in the conjunctiva; but he met with these terminal bulbs in various other parts of high sensibility, to which functions he believes them to be subservient. They are regarded by Krause as allied in character and function to the Paccinian corpuscles and to the corpuscula tactus, in the parts chiefly occupied by which they were most abundant, and for which probably they have often been mistaken by previous observers.

The particular function of the Paccinian corpuscles is involved in considerable obscurity. Their regular occurrence in certain situations at all periods of life forbids us entertaining the supposition of Cruveilhier and others, that they are adventitious structures. Their existence in such parts as the mesentery, bulb of the urethra, or interosseous spaces, and their being found only in the subcutaneous fat of the part where they could most effectually administer to the function, tend to detract from the *prima facie* probability of their being subservient to the sense of touch, or even of ordinary sensibility. The original opinion of Paccini, that they are electrical organs—arguing from the peculiar resemblance which they present to the parts of those apparatuses in certain fishes, in virtue of which they are known to possess the power of generating electrical currents—does not seem to be so extravagant a view of their functional relations as might at first sight appear.

Before leaving this subject let me refer to the observations of Mr. Rainey,† who professes to have seen numerous corpuscles, with concen-

\* Cumples Redus, p. 708, vol. xxiii, 1846.

\* Henle's Zeitschrift, 1868, heft 1., p. 28.

† Trans. Med. Chir. Soc., Lond., vol. xxix.

tric laminæ, separated by fluid, situated on the nerve-fibres, of the arachnoid membrane of the brain and spinal cord, in every subject he examined. He considers them to be either adventitious in origin, or resulting from a diseased state of the ganglionic corpuscles, which are so numerous in the plexus formed by the nerve-fibres, and which extends throughout the whole membrane. He also states that Vogel has met with similar bodies in the choroid plexuses, and Dr. E. Harless in the pia mater. But their frequent occurrence on the nerves in parts of the same structure so widely apart, and not on the nerves in others, would rather suggest a different opinion as to their origin and nature from that entertained by Mr. Rainey. It may be as well for me here to remark, that nervous plexuses of extreme delicacy have also been described by Bourguery and Papenheim in the peritoneum, and still more recently in the intestinal tract by Dr. Theodor Bilroth. It would seem, indeed, from the regular occurrence of this plexiform arrangement of the terminal nerve-fibres in serous membranes so widely apart, for instance, as the arachnoid and peritoneum, that it may be regarded as the manner in which their nerves terminate.

(b) *Gustatory apparatus in the tongue*.—I have already considered the dermal investment of the tongue, being a modification of the skin or common integument, as one of the seats of tactile sensibility; and although I may be obliged to refer again occasionally to its structural adaptations with respect to that function, I must in this place endeavor to treat of that particular portion of it which has been almost definitely ascertained to constitute the seat of the special sense of taste; containing the distal extremities of the gustatory nerve-fibres, and affording the conditions necessary for exposing them to the operation of their specific stimuli. The tactile sense, and that of taste respectively, we must recollect, are ministered to by distinct nerves; in the former case by the lingual branches of the fifth pair, in the latter by branches of the glosso-pharyngeal. Some physiologists such as Valentin and Müller, have asserted that both these nerves subserve the function of taste; and consequently, that all parts of the buccal cavity, and the adjacent surfaces supplied by those nerves, are the seat of that sense. If this, however, were true, it would certainly be the only instance of such an arrangement met with in the body,—namely, one special sense being performed through the agency of two different nerves; and then it would be necessary for them also to have the same central origin, in order to have single sensations from one stimulus, not two separate sensations, as would probably otherwise happen. We know here, then, no exception to the general law of each special sense having its own corresponding nerve. But in addition to such considerations, the careful experiments of Wagner and Bidder have referred the possession of the senses of touch and taste respectively to

different portions only of the dorsum of the tongue, corresponding in the one case to the peripheral distribution of the lingual branch of the fifth, and in the other to that of the glosso-pharyngeal nerve. The beauty and importance of this combination in the tongue, of the two senses in question, are at once apparent. For in addition to the mechanical purpose thus effected by the possession of tactile power, we have it also acting as an auxiliary to the gustatory nerve in the *appreciation* of such properties, in the sapid substances presented, as hotness, pungency, and astringency, which can only be appreciated by both senses, perhaps also with the aid of the sense of smell.

The dorsum of the tongue is covered with papillæ presenting great variety in form and structure; in these the nerves terminate, and they seem for the most part, to afford the necessary physical conditions for exposing the nerve-fibres to the action of their peculiar stimuli, and are, therefore, one of the elements essential to the constitution of a special sensory organ. These papillæ have also been distinguished into simple and compound; the latter are the *papillæ circumvallatæ*, the *papillæ fungiformes*, and the *papillæ filiformes*; and all of them have numerous processes, termed secondary papillæ. The simple papillæ were first described by Todd and Bowman, and seem to have no special relations. The nerves form a general plexus before entering the papillæ, according to Remak,\* and numerous divisions of the primitive fibres have been observed by Kolliker. These compound papillæ observe a certain localization in their distribution, which serves to map out the dorsum of the tongue into certain districts or zones. These, according to Professor Goodsir, are (1st) the tactile zone, which includes the tip and the anterior portion of the surface and margin of the body of the tongue. In this region we have filiform or conical papillæ, and also fungiform or calvate papillæ; the former are vascular, while in the secondary processes of the latter, corpuscula tactus are frequently met with; and there is probably, therefore, a similar ultimate nervous distribution to that of the tactile papillæ of the skin, although considerable difficulty is experienced in tracing out the actual terminations. This tactile zone corresponds to the distribution of the lingual branch of the fifth pair. (2nd) Proceeding farther backwards, we next come upon the gustatory zone formed by the *papillæ circumvallatæ*. It has an angular, well-defined outline in consequence of the V-shaped arrangement of the papillæ. The circumvallate papillæ are circular, disc-like processes embedded in corresponding depressions in the mucous membrane, so that there is a circular ditch-like furrow extending round each papillæ. They are divided into simple papillæ, and are covered with epithelium. Kolliker also describes

\* Kolliker, *Human Histology*, p. 22, vol. I, note by Editors; and also a paper in *Müller's Arch.*, 1862. Wagner's *Physical*, by Funke, part II., p. 623.

a circular wall-like papillary elevation surrounding each of the circumvallate papillæ, and states that the latter are from six to twelve in number. The branches of the glosso-pharyngeal are distributed within this zone; and, after forming a very delicate plexus, the nerve-filaments break up into fine pencillated tufts, which enter the papillæ, and nearly fill up their interior; and there is probably no structure in the body so richly supplied with nervous filaments. (3rd) Proceeding still further back, we have the glandular zone, which extends from the limits of the preceding to the base of the tongue. The name indicates its structure, and its relations to the sense of taste are not evident though Kolliker holds this region also to possess this special sensibility. Indeed the exact limits of the sense of taste in the mouth are still somewhat undefined; but there is no doubt as to the tongue being exclusively its special seat. With respect to the ultimate peripheral disposition of the glosso-pharyngeal filaments in the gustatory zone of the tongue, very little is known, and that little of a very uncertain kind, if I except the recent observations of Dr. Theodor Bilroth, to which I shall presently refer. Numerous investigations have been made, it is true; but their results have not been very successful, and, besides, they have been directed, in most instances, to the general nervous distributions in the organ in question, not to their special relations with respect to the functions of taste or touch respectively. I have already referred to the general plexiform arrangement of the nerve-fibres before entering the papillæ described by Remak,\* which must be regarded as the "terminal plexus." He also pointed out the existence of minute ganglia on the ramifications of the gustatory nerve, and also of the lingual branches of the fifth, more especially in the sheep and calf. According to him, they are either *hemi-ganglia* or *hologanglia*—involving a part or the entire fibres of the branch; the ganglionic cells are multipolar, and the fibres in and around the ganglia are somewhat altered to the ganglionic condition. Not having succeeded in tracing fibrils from these ganglia into the papillæ, and noting their frequency in the vicinity of the lingual glands, he holds them to have the same functional relation to the latter as the maxillary ganglion to the corresponding gland. Kolliker has found these microscopic (gustatory) ganglia in papillary branches; he has also seen them on nerve-branches of parts of the tongue destitute of glands, and also in the region of the glandular zone, in which Remak describes them occurring in greatest number. Kolliker holds them to be also endowed with the sense of taste. Waller's† observations seem still more decisive. He has met with nervous knots of a dark-grey color on the fibres of the gustatory nerve, at the basis of the fungiform papillæ only (in which he includes

the papillæ circumvallatæ): these he supposes to be of the nature of ganglia. He also refers to having found *vesicular granules* amongst the nerve-fibres before entering the fungiform papillæ. These observations as to the occurrence of peripheral ganglia and ganglionic vesicles on or amongst the fibres of the gustatory are quite characteristic of the nerves of special sense, as my subsequent descriptions of the latter will show how generally this has been remarked to occur.

Todd and Bowman, although they found terminal nerve-loops apparently, both in the fungiform and filiform papillæ, were unable to trace the nerves in the papillæ circumvallatæ—Kolliker has observed the nerve-tubules enter the latter, divide into numerous filaments, forming a very delicate plexus, and then pass into their secondary papillæ, where he could not determine their ultimate termination. He also found nerve-fibrils ramifying in the walls of the papillæ. In the other papillæ, however, he has remarked both loops and free ends. Dr. Augustus Waller's\* recent investigations into the papillæ and nerve-terminations of the tongue of the frog, made with section from the living animal, are in some respects so remarkable as to render it necessary to receive them with caution till further confirmed by other observers. He arranges all the papillæ under the classes of conical and fungiform: the former he states, are mostly of a vascular nature, and their nerves could not be successfully traced. He was more fortunate with respect to the nervous system of the fungiform papillæ. He describes the nerve-tubules as terminating at a part of the utricle or membranous wall of the papilla, where that membrane is so transparent as to render it somewhat doubtful if it is present at all. This is what he terms the gustatory or neurovascular area of the papilla, and where he supposes the functional operations of the sense of taste are instituted. This area has no fixed relation in the wall of the papilla—it may either be at the side or apex. He has observed every variety of free terminations of the nerve-filaments—either in abrupt or in irregularly-pointed extremities. Some of the fibrils, when they have attained the membrane of the area, end in a simple point; others are club-shaped; a few assume the form of a spiral; some, again, of small funnel-shaped ends; but most of them expand into the membrane by what he terms a kind of open concentric mouth, the end of the fibre appearing dilated, and presenting a dark point at the extremity corresponding to its axis. R. Wagner,‡ who seems to have got rather enthusiastic on the subject, subsequently repeated those experiments of Waller, by examining minute sections of his own tongue. His observations were to a certain extent confirmatory of Waller's. He

\* Kolliker's Human Hist. in Syd. Soc. Works, vol. ii. p. 22; and Muller's Arch., 1862.

† Phil. Trans. Lond., 1849, part 1., p. 146.

\* I. Institut, 1846, No. 752; and Phil. Trans. Lond., 1849, part 1., p. 146.

‡ Neurol. Untersuch., 1864, p. 143. Annal. des Sc. Nat. 1865, p. 373.



particularly noticed the dark point of the dilated end of the nerve-fibril, which he refers to as *cetee tache énigmatique*. He also found the fibres, as Goodsir describes them, terminating in tufts within the papillæ, the fibres becoming finer and finer by sub-division. He has likewise convinced himself that no looped terminations occur, notwithstanding Gerlach's recent assertions to the contrary, and that here he has met with additional evidence of the correctness of the view of the continuity of the nervous with other tissues, which he has latterly so strongly maintained. Waller\* considers, from the mode of the ultimate peripheral disposition of the nerves, especially in the tongue of man, that there are two groups of papillæ only—conical and fungiform,—the former for touch, the latter for taste alone, which is so far consistent with the view I have already cited. Waller refers to the following physical and anatomical conditions as favoring the initiation of the impressions of taste in the peripheral organs of that sense:—

1. The extreme thinness and delicacy of the membrane (gustatory area) enveloping the distal extremities of the nerve-filaments within the gustatory papillæ.
2. The abundant nervous supply of the papillæ; and
3. Their extreme vascularity, more especially towards their pices—a condition which as I have already stated, was first pointed out by Wagner, as always present in connexion with the nervous element to maintain the appropriate temperature necessary, apparently, for the highest exercise of the sensory function. Dr. Theodor Bilroth† has taken up this subject of investigation with some success. His observations principally refer to the relations of the epithelium of the papillæ of the gustatory tract. The epithelial cells covering the papillæ are cylindrical in form; they contain nuclei and nucleoli, and their free surface is ciliated. Towards the surface of the papilla the cells are branched, the processes extending down to the membrane bounding the papilla.—He describes entering each papilla, a nerve-branch with broad double contoured fibres, which proceed to the very extremity of the papilla, where they appear to end suddenly in abrupt points. He regards the epithelial cells in question as taste-cells, (*geschmacks zellen*), and with respect to their relation with the papillary nerve-filaments, he observes: "I have no direct evidence of the ends of the nerves being connected with the branched processes of the cells; but it is likely, if the observations (alluding to those of Eokhard, of Giessen) on the terminations of the nerves of the nose (in the cylindrical, ciliated epithelium of the Schneiderian membrane) are determined correctly."

From this brief review of the actual state of our knowledge as regards the ultimate dispositions and relations of the nervous element, in connexion with the sense of taste residing in the tongue, as the special peripheral nerve-organ of

that sense, it will be seen how very imperfectly the subject has been investigated, and to what an extent it is still open to research. No light has as yet been thrown on the *modus operandi* of the sense in question, on the manner in which the nerves of taste become exposed to the action of their stimuli; nor has the existence of any intermediate nervous apparatus for the purpose been certainly determined, which, arguing from analogy with the structural arrangements prevailing in the other organs of special sense, we should certainly expect to find developed in connexion with the peripheral expansion of the gustatory nerve in the taste papillæ. The latter afford the necessary physical conditions: but where are those minute elementary structures which are found attached to the distal extremities of the nerves of touch, as corpuscular tactus, and, under various modifications of form, in the other nerves of special sense? Are we to agree with Huxley in considering the simple terminal expansions of the nerve-fibrils in the gustatory area of papillæ as supplying their place, or, at least, some definite structural arrangement representing them? or are we to await the probability of subsequent research yet establishing the identity of the taste-cells of Bilroth with them? Till such progress is attained, all physiological inquiries with respect to the operations of the sense of taste must resolve themselves more or less into mere speculations, or they must, to some extent at least partake of that character.

## PRACTICAL CLINICAL REMARKS

ON

## RESECTION OF THE ANKLE-JOINT.

By HENRY HANCOCK, Esq., F.R.C.S.,  
SENIOR SURGEON TO THE CHAMBERLAIN-HOSPITAL.

GENTLEMEN,—We now come to that important class of cases wherein disease is restricted to the ankle-joint or its immediate neighborhood, the rest of the foot being healthy. Assuming that other remedies have failed, I propose to-day to consider what operation should be selected in cases of this description. I find, upon looking through the publications for the last ten or twelve years, that, exclusive of those upon which I have operated myself, with the exception of one in which the late Mr. Statham excised the astragalus, one in which Mr. T. Wakley successfully removed the astragalus and os calcis, and one in which Mr. Teale also successfully excised the astragalus, os calcis, and cuboid bone; and setting aside those in which amputation of the leg was performed,—that in this large and important class of cases the otherwise sound and useful foot has been sacrificed, and the patients submitted to either Syme's or Pirogoff's operation, or a modification of either one or the other.

In a previous Lecture, I described to you the steps of these two operations, and, whilst admitting the great superiority of those methods

\* L'Institut, 1846, No. 762.  
† Muller's Archives, 1858, p. 159.

over the old and now almost exploded amputation of the leg, I at the same time expressed my opinion that both these operations had frequently been performed where other operative procedure would have been more judicious; that it is in but comparatively few cases they are really necessitated—for instance, those in which there is so large an amount of disease or mischief present as to preclude all hope of preserving a good and useful foot. The operation which I would advise you to select, in the cases under consideration, is that of Resection or Excision of the Ankle-joint.

This operation was first performed by Moreau, and subsequently by Jüger and others abroad; but I believe I am justified in stating that, with the exception of those which I have done myself, there is not a single instance upon record in which excision of the ankle-joint has been performed in this country for disease. Why, in this age of conservative surgery and joint resection, the solitary exception should be made in the case of the ankle-joint, and so useful a member as the foot needlessly sacrificed, is an anomaly which I confess I do not understand. We have seen that, in Syme's operation, independently of the entire loss of the foot, there is danger of sloughing or bagging of matter; and in both Syme's and Pirogoff's operations, inflammation, sloughing, and suppuration in the course of the divided tendons. In excision of the ankle-joint these dangers do not exist. I have now performed this operation four times—three times successfully, once unsuccessfully, the patient dying, some six months after the operation, from lung disease, the result of a dissipated life. In no instance has there been sloughing; there need not be a single tendon or artery divided; there is afterwards very little if any deformity—comparatively little shortening; the foot is preserved, and, as you will see by the cases I here relate, the patients are able to walk and run about with scarcely any perceptible limp.

You must bear in mind, however, that the success of the operation depends upon leaving the anterior and posterior tibial arteries intact. If these vessels are injured, there will not be sufficient blood supplied to nourish the part, or power to heal the wound; sloughing will ensue, and your operation fail. Your object should be, to preserve everything as intact as possible, and on no account to open into the sheaths of the tendons.

The plan I have found answer best is the following:—Commence the incision about two inches above and behind the external malleolus, and carry it across the instep to about two inches above and behind the internal malleolus. Take care that this incision merely divides the skin, and does not penetrate beyond the fascia. Reflect the flap so made, and next cut down upon the external malleolus, carrying your knife close to the edge of the bone, both behind and below the process; dislodging the peronei tendons, and

divide the external lateral ligaments of the joint. Having done this, with the bone nippers cut through the fibula, about an inch above the malleolus; remove this piece of bone, dividing the inferior tibio-fibular ligament, and then turn the leg and foot on the outside. Now carefully dissect the tendons of the tibialis posticus and flexor communis digitorum from behind the internal malleolus. Carry your knife close round the edge of this process, and detach the internal lateral ligament; then, grasping the heel with one hand, and the front of the foot with the other, forcibly turn the sole of the foot downwards, by which the lower end of the tibia is dislocated and protruded through the wound. This done, remove the diseased end of the tibia with the common amputating saw, and afterwards, with a small metacarpal saw placed upon the back of the upper articulating process of the astragalus, between that process and the tendo-Achillis, remove the former by cutting from behind forwards. Replace the parts *in situ*; close the wound carefully on the inner side and front of the ankle, but leave the outside open, that there may be a free exit for discharge; apply water dressing, place the limb on its outer side on a splint, and your operation is completed.

You observe that the only parts cut through are the skin, the external and internal lateral ligaments, and the bone. Neither the extensor nor flexor tendons, the anterior nor posterior tibial arteries, are injured; consequently you have not to tie any vessels. The patient should be placed in bed, with his leg lying on the outer side; and you should be careful that there are openings in the splint-pad and oil-silk corresponding to the wound, otherwise the pressure of the pad causes the matter to be retained, and will, as I have seen it do, give rise to severe constitutional disturbance.

CASE 1.—*Resection of ankle-joint; cure.*—J. H—, aged eight years, of strumous diathesis, admitted January 30th, 1851, into Charing-cross Hospital, under my care, with disease of the ankle-joint. He had been in a delicate state of health for some time, and about three years before his admission a boy threw a stone, striking him on the left instep, from which period the joint became affected. On admission, the part presented a glossy, shapeless appearance; hot, and extremely painful on the least movement. It would admit of little, if any flexion, the child being quite unable to bring his heel to the ground. There were two fistulous openings anteriorly to the external malleolus, through which a probe could be readily passed into the joint. Shortly after his admission he was attacked with scarlatina, from which he soon recovered; the joint, however, becoming more painful, and the sinuses discharging thin offensive matter. It was deemed advisable to excise the ankle-joint in this case, the disease appearing to be confined to that part, and I accordingly performed the operation on Feb. 17th, 1851.

There was some pain for the next three or four days, caused principally by inflammation of the absorbents of the leg and thigh. The inflammation, however, completely subsided in the course of a week. From this time he continued to improve until he left the hospital in the following May, cured.

I saw this boy about two years ago; he had become tall and stout, and he told me he could walk, run, and jump without any inconvenience. He wore a thick sole to his boot, and there was scarcely any perceptible limp in his walk.

**CASE 2.—Excision of the ankle-joint; death in six or seven months.**—M. A. G.—, admitted under my care into Charing-cross Hospital in Sept., 1857. About four years previously a swelling, not preceded nor accompanied by pain, commenced in front of the angle-joint. A wound soon after appeared behind the external malleolus, which remained open and discharging for about a month, when it healed, and she felt nothing more of it for about eighteen months, when the joint again became swollen and very painful; but she continued to walk about until fourteen months before admission, when the symptoms became so aggravated, that she could not walk at all, whilst for the last five months she could not put her foot to the ground.

When admitted, the joint was much swollen; there were three openings in front of the internal malleolus, which communicated with the joint. On October 5th I excised the ankle-joint. She did not suffer much afterwards, but at the same time she did not progress so rapidly as the other cases have done. She became impatient, and left the hospital without my consent before the part had healed, and I subsequently learned that she died of lung disease some six or seven months after the operation.

**CASE 3.—Excision of the ankle-joint.**—W. R.—, aged twenty-five, admitted under my care into Charing-cross Hospital on August 27th, 1857, with disease of the ankle-joint. When three years old he slipped off the pavement, and sprained his ankle, which became much swollen and very painful. Matter formed, which was let out with temporary relief; but he shortly became worse, and was taken to the late Sir Astley Cooper, who advised amputation of the limb; but his friends objected, and Sir Astley ordered him a wooden leg, to wear from the knee. This he did for six months, but without benefit. Having friends in Killarney he was sent there for change of air, and was attended by a medical man, who, he says, "worked wonders" with him. His treatment was peculiar. He ordered off the wooden leg, and then desired him to put his foot to the ground, and walk in the meadows barefooted every morning, whilst the dew was on the ground. At night he gave him oil to be rubbed into the ankle before the fire. At the end of six months he had improved so much, that he could walk without the assistance of a stick. The joint continued to get stronger every year, but remained stiff. In

June, 1855, he came under my care with an ulcer on the side of the ankle. This healed in a fortnight, but the stiffness remained. He was now persuaded to place himself under the care of a quack, who pronounced the ankle to be out of joint. After oiling it well for three weeks with neat's-foot oil, he (according to the patient's statement) "snapped the bone into its place;" after which he lost the stiffness, and could walk "as well as he could wish." Eight months after this he slipped again, and again consulted the quack, who he says, "put the bone in a second time." Again, a third time, he fell, and a third time he consulted his friend, who this time failed to accomplish his object, in consequence, as he said, of the "nerve resisting him so much." The ankle now began to swell and inflame; matter formed, and he consulted Mr. Tucker, who kindly sent him to me. I need scarcely tell you that when I attended him for the ulcer, there was no dislocation present.—"The snapping and putting in the bone" was, doubtless, the disruption of adhesions, and, in all probability, caused the aggravation of mischief necessitating the operation.

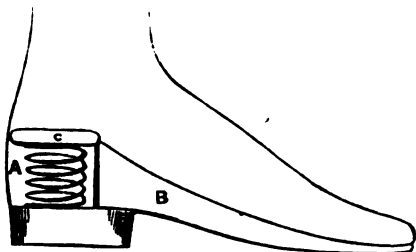
At his admission his ankle was much swollen, inflamed, and very painful; there was an open wound over the external malleolus, communicating with diseased bone, and discharging offensive matter. Soon after, the inner side became swollen and intensely painful. An incision was made to relieve the tension, and afforded much ease. He, however, gradually became worse; his health began to give way, and, therefore, on Sept. 10th, I excised the joint. The tibia, fibula, and astragalus were all found diseased. He went on very well. He experienced some little drawbacks from a small spicula of bone coming away, but he left the hospital cured.

This wood cut is copied from a model of his foot, taken by Mr. Arnold, the house-surgeon, a few days since.



This patient, who is an exceedingly ingenious fellow, has invented a boot, which appears to answer admirably. In the description which

he has sent to me, he says, "Finding the cork sole did not give me any spring, I began to consider what I could substitute for the cork, so as to give me greater facility in walking.—The result of my meditations was, a steel spiral spring, fixed in the heel of the boot (A), the cork, of course, being cut away. Then I have the cork sole down to the toes (B). On the top of the spiral spring is a circular piece of thick leather (C); and I derive great benefit from the invention."



He also wears the usual side irons for weak ankles. I met him the other day walking down Hamstead Hill, and he certainly showed no signs of having undergone so serious an operation.

**CASE 4.—Excision of the ankle-joint and removal of a considerable portion of the os calcis, for disease.**—J. T—, aged six years, residing at Hounslow, was sent to Charing-cross Hospital, under my care, in September, 1858, by my friend Mr. Chapman, having for the previous four or five months suffered pain in the left ankle. On the 26th of August he leaped from the top of a wall five feet high, and so hurt the joint that he had to be carried into the house. Considerable swelling and suppuration ensued, and, when admitted, he was very ill, weak, and feverish, his countenance being anxious and indicative of great suffering. There was an unhealthy-looking wound in front of the internal malleolus, discharging a large quantity of offensive matter, and a probe readily penetrated the joint, which was found extensively diseased. His friends having consented, I excised the joint on the 9th of October, in the manner I have described to you; but after removing the upper portion of the astragalus, which was curious, I found the disease extended through and beneath this bone, involving the os calcis to a considerable extent. The convex tibial articular surface, and the whole of the body of the astragalus behind the interosseous calcaneo-astragaloid ligament, were removed, as well as the remains of the corresponding articular surface on the upper part of the os calcis; whilst the interior of that bone, behind the interosseous notch, was carefully gouged out before the disease could be got rid of; so that little more than the shell of bone remained in that situation. No arteries were tied. The boy suffered very little constitutional disturbance, his general health and appetite having been uniformly good, and his progress satisfactory.

March 10th, 1859.—He is now cured. He can stand upon his foot and walk without pain. The wound is entirely healed.

This case shows in a very marked manner the value of the operation. Had Pirogoff's method been employed, it would inevitably have failed, from the condition of the os calcis. It also shows how extremely valuable is conservative surgery—in young people, at all events. The amount of disease and the state of the os calcis almost made me doubt the result; but yet we find the child going through the cure with scarcely any constitutional disturbance, the cavity in the os calcis filling up and becoming sound, and a perfect cure taking place in five months from the time of operation.

Mr. Arnold kindly took a cast of the boy's foot before he left the hospital, and you will see by the woodcut, drawn from that cast, that, not-



withstanding the extent of disease, the limb is by no means unsightly.

With these cases before you, I feel quite justified in advising you to adopt this method wherever you are called upon to operate, provided the disease appears confined to the ankle-joint. In gun-shot wounds and other injuries, your proceedings must be guided by the extent of implication of the soft parts.

### Original Papers.

#### ON A CASE OF DIGESTIVE SOLUTION OF THE OESOPHAGUS; WITH OBSERVATIONS.

BY EDWIN CANTON, Esq., F.R.C.S.,

SURGEON TO THE CHARING-CROSS HOSPITAL, AND LECTURER ON SURGICAL ANATOMY.

About the middle of August, I assisted Mr. Watkins, Surgeon, of Chandos-street, Covent-garden, in the post-mortem examination of a female child, aged six months, who had died comatose. The insensibility commenced two hours after the ingestion of a large supply of breast-milk and soaked bread, and continued until death, which occurred in ten hours afterwards. No satisfactory account could be obtained from the parents of any particular ailment under which the child had previously labored.

The autopsy was made twenty-six hours after death. The body which was that of a plump, well-nourished infant, had been kept in the supine position, and in a warm room. The posterior part of the trunk and limbs was deeply discolored by post-mortem gravitation of blood.

The only morbid appearance in the head was a large quantity of clear serum at the base of the brain in the arachnoid cavity.

A very thin pellicle of lymph lined the trachea in its whole length, and extended for a short distance into the bronchi. The larynx was in all respects healthy.

Within the thorax were found two or three indurated glands near the trachea, and one particularly, on its right side, was enlarged to the size of a filbert, and placed just behind the point of junction of the innominate veins with the superior cava; these vessels were overlaid by the right lobe of the thymus body. This enlarged lymphatic gland contained crude tubercle and three small abscesses. The pericardium was distended by clear serum. Heart healthy. The lungs contained scattered military tubercles, and their thick margins were deeply congested from gravitated blood.

On raising the left lung carefully from its pleural cavity, the latter was seen to contain nearly two drachms of a sanguinolent fluid, in which were several very small particles of food. No adhesions existed. The fluid being removed, an oval opening was found in the left side of the œsophagus, about three quarters of an inch in length, in the axis of the tube, and commencing nearly a quarter of an inch from the diaphragm. The edges of this opening were thin, flocculent, free, and, as it were, irregularly fringed. Another aperture, about a third of the length of the one described, existed in the axis of the canal, but placed a little more towards its posterior part, so that a small strip only of undissolved texture remained to separate the two. The margins of the lesser opening presented the same characters as those of the larger one. On laying open the œsophagus, in the situation of these apertures, the mucous membrane was seen to be filmy, almost diffuent in some parts, and of a roseate hue. The nerves, externally, were remarkably distinct, and quite perfect. The œsophagus, in the remainder of its extent, was healthy.

The obtuse edge of the lung, where it had overlaid the larger opening in the tube, was but slightly acted on by the gastric juice; sufficiently so, nevertheless, to account for a ready transudation of blood from it to color this fluid in the chest.

The stomach was distended by soaked bread, and the coats of the viscus were in every part intact and healthy. The cardiac orifice was contracted, and the diaphragm perfect. The intestines were somewhat inflated.

*Observations.*—This case presents us with an example of a condition of the œsophagus formerly considered to be caused by *forcible rupture*,

but which, since the time of Hunter, is well known to be brought about, after death, by the regurgitant, gastric juice, producing a *digestive solution of its coats*. Boerhaave's case is commonly adduced by those who hold the former opinion, and Portal,\* after relating it, remarks: "On a depuis reconnu, par l'ouverture du corps, d'autres exemples de mort par une pareille cause." Monro† observes: I have a preparation before me, in which the gullet of a child has been ruptured to a considerable extent in a longitudinal direction;" and he refers to a similar case in the twelfth volume of the "Edinburgh Medical Commentaries." The only instance with which I am acquainted in any more recent work, and related as one of *ruptured* œsophagus, is that by Dr. Habershon.‡ It is, however, open, I think, to the doubt of being of this character, and the author, in detailing the post-mortem appearances, observes: "The stomach and intestines were exceedingly distended with flatus, and the stomach partially dissolved by gastric juice. The rent in the œsophagus appears in the preparation (Guy's Museum, No. 1799\*) to extend into the stomach, but was, perhaps, increased after death. It is probable that the œsophagus was much dilated with food, and that its coats suffered either by previous disease, or by digestion from gastric juice regurgitated from the stomach, and there remaining sufficiently long to corrode its walls."

The following rare case is reported by Dr. Jos. Meyer,§ and is so replete with interest that I venture to quote it *in extenso*. It occurred in Professor Schönlein's clinical wards.

A shoemaker, aged thirty-eight, habitually intemperate, robust, from occasional dysphagia in swallowing solids, brought on in childhood by the application of caustic alkali. The attacks gradually increased in frequency, and the last one occurred in February, 1858, when the patient was swallowing a piece of sausage. Violent attempts at vomiting failed to throw it up; a considerable quantity of blood was ejected; great anxiety and dyspnoea and pain in the epigastrium followed. An hour after the occurrence, the right side of the face became tumefied. A surgeon administered several emetics and introduced a probang without effect. The symptoms became more urgent, and on the following day he was admitted into the Charité. He was first seen sitting bent forwards, with a pale, rather cyanotic complexion, cutaneous emphysema of the face, neck, and anterior half of the thorax. The auscultation of the heart and lungs was everywhere normal, except impaired vocal resonance at the posterior base; the pulse 142, small; respirations 40. There was severe pain extending from the

\* Cours d' Anatomie Médicale, vol. III. p. 538 Paris, 1808. Boerhaave's case is quoted also in Mayo's Pathology (p. 281), under the heading of "Rupture of the Œsophagus."

† The Morbid Anatomy of the Human Gullet, Stomach and Intestines, p. 311. Edinburgh, 1811.

‡ Pathological and Practical Observations on the Diseases of the Alimentary Canal, p. 60 London, 1857.

§ Preuss. Ver. Zeitung, N. F. I. 39-41, 1858; and Schmidt's Jahrbucher Jahrg. 1859. Quoted in the Brit. and For. Med. Chir. Review, No. xlvii, July, 1859, p. 257.

xiphoid cartilage to the vertebræ, which was increased by the erect posture. A rupture of the œsophagus, with moderate pleuritic exudation at the right base, was diagnosed. In the course of the night all the symptoms increased; the emphysema spread over both arms; liquids could be swallowed only in small quantities, on account of the dyspnœa. Death ensued fifty hours after the commencement of the illness.

The autopsy showed the œsophagus to be healthy, except a patulous, ulcerated surface, one a quarter by three-eighths of an inch in dimension, on the anterior walls of the œsophagus, three inches above the cardiac orifice of the stomach. The ulcer had perforated all the coats; the edges were sharply defined, and the surrounding parts healthy. Just above the cardiac orifice there was some narrowing, the muscular tissue being hypertrophied, but without any cicatrized tissue. In front of the perforation there was a large accumulation of foul pus, with necrosed tissue, and the remains of food. To the right there was a less extensive purulent infiltration, mixed with gas, and from here there proceeded an extensive emphysematous distension of the mediastinum. The pleural cavities contained much discolored, fetid exudation; the pleuræ were invested with thick, fibrino-purulent masses; there was no adhesion to the healthy lungs, nor any lacerations of the latter. There could be no doubt that the perforation was quite recent, both from the appearance of the ulcer and the absence of thickened walls of an abscess.

In most of the recorded instances of digestive solution of the œsophagus, the opening has been found near the diaphragm.\* This is what might have been anticipated; and, from the anatomical disposition of the tube, in this situation, it might be expected also that into the left pleural cavity the gastric fluid would sooner make its way. It may happen, however, that into both sides of the chest extravasation takes place, as in an instance related by Mr. Wilkinson King.† Here the œsophagus was found dissolved in two places, just above the stomach; its whole circumference was destroyed, leaving an intermediate portion of tube, just one inch in length, the ends of which like the upper and lower divided ends of the œsophagus, were soft and flocculent. "As to the circle of œsophagus which was left, in this case, it seems attributable to the simple weight of the heart, which might have kept this portion of tube comparatively empty of the solvent." — p. 143.

The extent to which the pulmonary pleura and parenchyma may suffer solution will depend greatly on the amount of fluid poured into the chest, the length of time intervening between death and the autopsy, and the temperature at which the body has been kept. It is, of course,

the obtuse edge of the lung which is liable to be chiefly affected, and that it may be so to a very great degree is shown in a case of Dr. Hewitt,‡ where "at the back part of the upper lobe, and the adjacent surface of the lower lobe of the left lung there is a space of three inches in vertical diameter, by three-quarters of an inch transversely, of a dirty-brown color, giving at first sight almost the appearance of gangrene of the lung. The surface is sharply defined, slightly depressed; when scraped, minute air-bubbles are removed, and, when squeezed, blood exudes from the free surface." In the first case related by Mr. King, the whole of the edge of the lung was destitute of pleura, which had been dissolved to the extent of about twelve square inches, the alteration being circumscribed by an abrupt margin of flocculent pleura. The surface of the lung thus denuded did not appear otherwise altered; it was of an uniform aspect, rather dark, and under pressure, exuded little bubbles of air at all points.†

It is stated by Dr. Budd,‡ that "when the œsophagus is thus dissolved or corroded by the gastric juice, the great end of the stomach is dissolved or corroded also." This statement, however must be received with some reservation; as a very general rule, it is doubtless correct. My own case offers an exception, and I believe it not unlikely that the stomach, here, being much charged with contents, the gastric juice, in operating more on them, acted proportionately less on the walls of the organ containing them. I did not discover a softened condition, even, of the mucous membrane, which at the same time was of a paler hue at the great end of the stomach than it is ordinarily seen to be under the reception of food. Nevertheless, in the absence of any such amount of contents as I have referred to, the stomach may remain intact, although the œsophagus is at the same time greatly affected, as in the case of Mr. King, where the stomach was entire, and lined with a considerable layer of mucus. This author says that "sometimes when the œsophagus is much affected, the stomach is less so, and *vice versa*." The reason of this is, that when by the contraction of the abdomen or stomach the gastric fluid is most driven upwards, less, of course, remains to act on the lining of the stomach, which, being diminished in extent and thickness, is less readily acted on." In Dr. Hewitt's case, the stomach contained only a small quantity of mucus; a slight stream of water removed the mucous membrane in considerable quantity. In a case of fever treated in St. Bartholomew's Hospital,§ where, after death, an opening was found in the œsophagus of about the size of a shilling, the stomach was discovered to have all its coats much attenuated over the cardiac end, and this membrane could be stripped off in layers.

\* It is important to remember, that while the body is supine the gastric contents may pass into the œsophagus; for if these contents proceed into the pharynx, and then down the trachea into the bronchi, when often occurs, you might be somewhat puzzled to find such unusual matters in the lungs." — S. Wilks, M.D.: Lectures on Pathological Anatomy, p. 265. London, 1859.

† Guy's Hospital Reports, vol. vii., p. 141. 1842

‡ Trans. of the Path. Soc. of Lond., vol. vii., p. 67. March 4th, 1856.

† The age of Dr. Hewitt's patient was fourteen months, and of Mr. King's nineteen years.

‡ On the Organic Diseases and Functional Disorders of the Stomach, p. 3. London, 1855.

§ The Lancet, 1832.33, vol. 1, p. 478.

The viscus itself contained a small quantity of darkish fluid adhering to the mucous membrane.

A point of some interest in the case I have brought forward is, that whereas the stomach was replete with *quasi*-solid contents, not more had regurgitated into the œsophagus than gastric juice, in which were "several and very fine, whitish particles of food." The cardia was contracted, and I presume that the gradually increasing post-mortem rigidity of the abdominal muscles, aided by the general though slight insufflation of the intestines, and the resistance offered above by the distended pericardium, must have, together, squeezed the gastric juice — being the thinner portion of the contents of the stomach — through an opening which, in its still contracted state, disallowed the passage of the more solid matters. Dr. Carswell\* observes: "It is when the gastric juice is in great abundance, or the stomach distended with gas, that the cardiac orifice becomes dilated, and this fluid passes into the œsophagus and dissolves it."

I have mentioned, in the account given of my case, that the portion of *plexus gularis* in the close neighborhood of the œsophageal perforations was very distinct and perfect. This point has generally been left unnoticed in the autopsies related by various authors; there are, however, some who particularly refer to it, — *e. g.*, Dr. Marshall Hall† found a perforation in the œsophagus of a little girl whose body he examined on the fifth day after death, and he notices that "the nerves were left entire, and, as it were, beautifully dissected." In the remarks made by Dr. Hall on this case, it is observed: "We might, possibly, employ the gastric juice in the minute dissections of the nerves, since this texture appears to resist the action of this agent, whilst that of the other parts is destroyed by it." The fact itself is mentioned by Cruveilhier in his "Medecine Pratique," *cachier* i., p. 143. In the first case reported by Mr. King it is stated that the nerves were much acted on, but they had resisted more than the other tissues. These œsophageal perforations have been known to occur at all periods of life. In the instance I have related the age was six months, and Mr. King has seen a case at sixty-seven years. The causes of death have also been of a varied character.

In conclusion, I may remark that I have extended these observations to a greater length than I should have done, but for the consideration that the subject of them is one which I believe has not been brought, of late years, so prominently forward as it deserves to be, not, only from the interest which attaches to it *per se*, but also from the important *medico legal bearings* with which it might, suddenly, be found to become invested.

\* *ntague-placo, Russel-square, Sept 1859.*

\* *Pathol. Anat., art "Softening."*

† *Edin. Med and Surg. Journal, vol. xxxii, p. 28, 1859.*

## ON A CASE OF RUPTURE OF THE RIGHT AURICLE OF THE HEART.

By J. N. OREGEN, Esq., M.R.C.S. Eng., &c.

THE following case occurred in my practice a short time since:

On the evening of April 7th, I was hastily summoned to visit a man a very short distance from my residence, who was said to be in a fit. I immediately obeyed, and on my arrival found him lying stretched upon the floor, apparently dead. He was pulseless and insensible, and on placing my ear over the region of the heart, I faintly, but distinctly, heard it beat two or three times when it entirely ceased. As the cause of death to my mind was not sufficiently evident, I refused to grant a certificate, whereupon the friends desired that a post-mortem examination should be made.

The man, it would appear, met with an accident some two or three months previous by the falling of a heavy piece of iron upon his head, which incapacitated him from following his avocation as a sail-maker for some days, and I was informed by the friends that he suffered more or less from the date of the injury to his death with headache, and occasionally very slight aberration of intellect; and as he was in Government service, it was principally on account of that accident that the friends desired the post-mortem examination, as, in case of death resulting from the effects of that injury, the widow would be entitled to a pension.

Assisted by my friend, Mr. Cope, a surgeon residing in this town, I made the post-mortem examination. The body was that of a robust, healthy-looking man, apparently about thirty-eight years of age. There were no marks of violence; the features were placid and pale, but the region of the chest was quite livid, while the other parts of the body were of a natural hue. — The scalp was first examined, but we could not discover the cicatrix of any old wound. We then proceeded to take off the calvaria, which was exceedingly thick and examine for old fractures; not that we expected to find any, but only to satisfy the friends, who positively stated his skull was fractured when he received the blow on the head. The membranes of the brain were all healthy, except at the summit, where they were adherent to the surface of the brain to the extent of about one inch and a half in diameter. The longitudinal sinus and meningeal arteries were quite empty. The brain itself was healthy, and on slicing it away was found quite exsanguineous. The ventricles were carefully examined separately, but nothing morbid could be discovered; and we could not detect anything in the head to account for death, even as a remote cause. We then proceeded to examine the chest, and on opening it our attention was first attracted to an enormously distended pericardium, into which we made an incision, and a very large quantity of blood escaped into the cavity of the chest in a semi-coagulated condition. The



heart, with its opened pericardium, was then very carefully detached, and minutely examined. It was of ordinary size, flattened from before to behind. Its weight was not ascertained. The right auricle was first examined, and on carefully passing the little finger along the ascending cava a rent was discovered on the anterior aspect, situated between the entrance of the inferior vena cava and the right auriculo-ventricular opening, about six lines in length, and partly filled with a plug of fibrin. The walls of the right auricle were, if anything, a little thinner than natural; but the remainder of the heart was perfectly healthy and of usual thickness. There was no dilatation in its walls, neither was there any fatty degeneration, nor any aneurism communicating with the bag of the pericardium. The valves were all healthy. The several cavities were empty, with the exception of the left ventricle, which contained a small quantity of coagulated blood. The lungs were next examined: the right was adherent by old adhesions to the pleura, which could with difficulty be separated.—The lung tissue on both sides was perfectly healthy. The abdomen was not examined, as the cause of death was sufficiently evident in the chest.

*Remarks.*—These rapidly fatal affections of the heart are fortunately, very rare; but when they do occur, we generally find the rupture to be attributable either to fatty degeneration or dilatation of its walls, neither of which could have been a cause in this case. Amongst the natural causes of ruptured heart (although exceedingly rare) violent mental emotion is the chief, but which could not possibly have been present in the subject of this case, as he was sitting perfectly tranquil and quiet in his easy chair at the time of his death; and it was only a few minutes before that he told his wife he was then in a better state of health than he had been for some years past; and nothing occurred during the day or evening to give rise to any mental emotion. In November, 1843, a somewhat similar case was reported by Dr. Stroud to the Royal Medical and Chirurgical Society, and mentioned in Professor Taylor's work on "Medical Jurisprudence," which occurred in a young man aged twenty-nine, but which differs in this respect from the present, that it did not prove so rapidly fatal, as he lived about ten hours after his first seizure; while in this case, which occurred in my practice, the patient only survived about eight minutes after he was seized. In the case of Dr. Stroud, also, there did not appear to be any morbid condition of the heart. The chief points of interest in this case, therefore, are the absence of anything which could give rise to the rupture, and the very rapidly fatal results.

Broomfield House, Deptford, Sept. 1861.

## NOTES OF A CASE OF INTESTINAL OBSTRUCTION.

By MONTAGUE J. STURGES, M.D. EDIN., A.K.U., &c.

There are many reasons why medical men in general practice are unable to record with minute accuracy the details of interesting cases as they come before them; and thus much that is valuable and instructive teaches its lesson to the observer alone, instead of being made permanently and widely useful. The following case possesses so much interest, that I am induced to request its publication, although my notes are very imperfect, not having been taken *de die in diem*.

Harriet M—, aged sixty-five, is in humble circumstances, a native of Berks, but for nearly all her life an inhabitant of London. She is a tall, emaciated woman, of bilious temperament; has had tolerable health, with the exception of having suffered for the last ten years from spasmodic asthma. There is no history of any inflammatory affection of the bowels. She was in her usual health up to the 9th of May, having eaten a good dinner, and had free relief of her bowels on the 8th. On the former day, however, she began to suffer from what she deemed a bilious attack, which came on suddenly. She felt pain in her bowels of a colicky character, not confined to any particular locality; vomiting set in, and there was no action of the bowels. This state of things continuing, with aggravation of all her symptoms, I saw her on the 12th. I found her flushed, with a bounding pulse of 100; complaining of a great deal of abdominal pain, without any tenderness on pressure; incessantly vomiting, having rejected nearly all nutriment for three days; the bowels remaining constipated. The vomited matter was dark and grumous, and taken by my patient for bile. The liver was enlarged, reaching into the right lumbar region. There was no hernia. Urine high-colored, but passed freely throughout the attack. I ordered her to take immediately seven grains of compound extract of colocynth, and three grains of chloride of mercury, in two pills, with an effervescing mixture containing five minims of hydrocyanic acid (P.L.) in each dose, every four hours. Warm fomentations were applied to the abdomen.

May. 13th—There had been no sickness for upwards of an hour after taking the pills, but no evacuation followed; the vomiting continued, and the pain had not abated. I therefore ordered an enema of turpentine, castor oil, and gruel, and added the one-eighth of a grain of acetate of morphia to each dose of the mixture.

14th.—No improvement. The pain was to-day more particularly referred to the situation of the ileo-cæcal valve, where some tenderness and swelling existed. The injection had returned unchanged; very little was kept on the stomach; flatulence rather troublesome. A pill was prescribed, consisting of chloride of mercury, three grains; croton oil, two drops; extract

of colocynth, sufficient quantity. The effervescing medicine to be continued, and ice taken freely. The pill remained down, but, producing no effect, a quart of tepid water was thrown up the rectum in the evening, without any result. Debility increasing, but pain less.

15th.—Stercoraceous vomiting set in frequently, and in large quantities; it was therefore evident that further attempts at purgation would be useless, and probably injurious; so they were abandoned, and the medicine persisted in, adding fifteen minims of aromatic spirit of ammonia to each dose. Two grains of opium were ordered to be taken at bedtime, and an injection of beef-tea and wine was administered.

16th and 17th.—Fæcal vomiting continues. The ice, effervescing medicine, beef-tea, and opiate persevered in.

18th.—No change.

19th.—Was reported to have passed a small motion, which I did not see; but vomiting remained, although it recurred with less frequency. The dose of morphia was increased to the one-sixth of a grain.

20th.—I was gratified by finding that my patient had passed two copious liquid evacuations, with immediate relief to all her symptoms. It is unnecessary to follow her daily condition further, as from this date she steadily improved, two or three motions occurring every day. As, however, they were offensive and contained much scybalous matter, I gave her a small dose of castor oil, with a beneficial effect.

*Remarks.*—In diagnosing the locality of the obstruction, I think we may fairly infer that it existed in the small intestines; for, as Dr. Brinton has recently pointed out, and as was well seen in this case, the intensity of the pain and its general diffusion over the abdomen, the early onset of vomiting, appearing at the very beginning of the attack, and soon becoming fæcal in its character, combined with the absence of very distressing flatulence and tympanites; all combine to carry us to this conclusion. The situation of a slight swelling in the right iliac region rendered it very probable that the mischief existed at or near the ileo-cæcal valve. With regard to the nature of the obstruction, I think the suddenness of the attack, and in some measure the manner of its termination, make it likely to have been intussusception. I am sorry to be unable to speak positively, because the first evacuation was thrown away before I could observe it, but I suspect that the intussuscepted portion of intestine must have sloughed away, and passed per anum. The general lesson taught us by such a case as I have recorded is the old one "*nil desperandum*," a motto particularly applicable to this class of affections.

Stdney square, 1859.

## IS CHLORATE OF POTASH SO INNOCENT A REMEDY THAT IT MAY BE INDISCRIMINATELY ADMINISTERED?

By HENRY OSBORN, Esq., M.R.C.P. LOND.,

PHYSICIAN TO THE SOUTHAMPTON DISPENSARY.

From my own observation I am led to conclude that no preparation of the Pharmacopœa requires greater care and judgment in prescribing than the chlorate of potash. A few years since this salt was known chiefly to the experimental chemist, whilst the physician and surgeon had little or no knowledge of its properties as a remedial agent. But the present era appears to be a period fruitful in the application of discoveries\* of past years, and the chlorate of potash, like chloroform, has been called into use to further the progress of medicine and surgery. It is quite impossible that the practice of medicine can rank as a science when the action of our remedies is unknown to us. For instance, the agriculturist may know that a good crop of grain can be produced by adding manure to his land; but unless he is able to explain, upon scientific principles, the action of the manure upon the seed in reproduction, &c., he has not advanced beyond the quack who has no knowledge of anatomy, physiology, and chemistry, to guide him in the "healing art;" hence the fearful responsibility which such an one takes upon himself. The same responsibility must necessarily fall upon the qualified practitioner, if, through an error in judgment, he administers to a patient that which accelerates a disease to a fatal termination.

When we imagine that chlorate of potash is so harmless that no ill effect can result from its administration, we may fall into error. I have known many instances where so much congestion of the brain has been caused by the ordinary doses of the salt, that it was necessary to suspend its use. I have also known convulsions in children to follow the exhibition of chlorate of potash, though it might be difficult to prove that they were produced by it. Nevertheless, to satisfy myself more particularly upon this point, I resolved to try its action on my own constitution in a state of health. I first took a single dose of five grains, dissolved in water, and found a sense of congestion of the head, accompanied by pain of the forehead. A few weeks after, I took a dose of ten grains of the chlorate, and the same symptoms were produced, which continued for about two days. I then waited for a period of some months, and took a dose of fifteen grains in a glass of water. It first produced slight acceleration of spirits, followed by congestion of the brain to such an extent that one half of the head, face, and nose felt paralysed. These symptoms continued for two days, and then gradually subsided. There was also a loss of taste, being scarcely able to distinguish different kinds of meat. The muscles of the palate felt contracted, and the mucous membrane of the mouth and

throat appeared tanned, as if this had been effected by tannic acid. I have frequently used (while attending\* scarlatina patients) a solution of chlorate of potash, as a wash for the mouth in the morning, while cleansing my teeth; but if continued for two or three days in succession, similar symptoms to those which I have described, though in less degree, were produced.

The action of chlorate of potash on the healthy constitution must necessarily differ from that under disease; but what are the symptoms of disease which contra-indicate its use? In all cases of disease accompanied by inflammatory fever, and in all cases where there is a tendency to acute hydrocephalus in children, great care should, in my opinion, be observed.

The cases in which I have found the chlorate most beneficial are, necrosis of bone both in children and in adults; but its efficacy is accelerated by alternation with the preparations of iodine; also in cases of chronic leucorrhœa and gonorrhœa of long standing in females, but in the latter diseases there was less tolerance of the salt, head symptoms supervening. In cases of secondary syphilis arising from the non-indurated chancre, there appears to be a much greater tolerance than in secondary syphilis arising from the indurated variety; but further observations are required.

The action of chlorate of potash is both chemical and physiological, depending—first, on its oxidizing property when it comes in contact with morbid matter contained in the blood, which oxidized matter is chiefly removed by the kidneys; secondly on its remarkable physiological action on the muscular fibres in causing them to contract, and this contraction giving rise to pressure upon the bloodvessels, together with the contraction of the muscular coat of the arteries, producing mechanical congestion of the brain. I have found the radial artery at the wrist contracted to wire-bell dimensions, and in such a case it was found almost impossible to remove blood by cupping. The kidneys, from their structure and position, are not liable to congestion under the influence of the chlorate; hence there is always a free outlet through those organs. But this is not the case with the bowels, the muscular coat of which may contract upon their contents, producing constipation, which I have frequently observed when my patients have been fully under its influence.

Lastly, I would observe that although chlorate of potash is a valuable remedy in certain stages of scarlatina, especially as a gargle or injection for the throat, it should be cautiously administered in the acute stage of that disease.

Southampton, Oct. 1859.

\* It is a question whether medical men might not use a gargle of chlorate of potash as a preventive while attending cases of diphtheria. I once contracted a severe ulcerated throat by omitting to suspend my breath while examining the throat of a patient.

## ON A CASE OF DISLOCATION OF THE ASTRAGALUS BACKWARDS, UNACCOMPANIED BY FRACTURE.

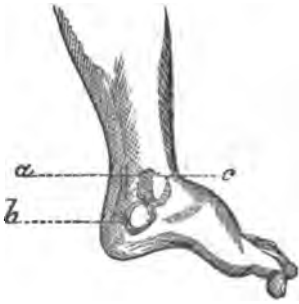
By WILLIAM MUNRO, M. D.,  
SURGEON TO THE 93RD HIGHLANDERS

During the siege of Lucknow, Lieut. M——, of the —— Regiment, fell with his horse, the animal throwing its whole weight on his rider's foot, which unfortunately remained entangled in the stirrup. On being freed from the horse, Lieut. M—— was unable to put his foot to the ground, and felt intense pain in his ankle (the left). He was immediately brought to his tent, where I saw him within a few minutes after the accident. On examining the foot, I found a considerable prominence behind the internal malleolus, between it and the end of the os calcis, and a corresponding depression in front of the foot below the tibia. The last phalanx of the great toe was bent downwards almost at a right angle, and the foot was immovable. No crepitus could be perceived, and the malleolus was distinctly felt in continuation of the tibia. After some hesitation, I conjectured the nature of the accident, and determined to endeavor to reduce the displaced bone at once. With this object in view, I put the patient under the influence of chloroform, flexed the leg upon the thigh, extended the foot myself, moving the heel downwards and forwards as much as possible; one assistant fixed the knee, while another placing both hands in front of the ankle-joint, pressed with both thumbs on the projection behind.—The first effort was unsuccessful; but during the second the dislocated astragalus slipped suddenly, and with a jerk, into its place, restoring the joint and foot to their normal state at once. I then placed the leg, in a flexed position, on a splint with pad, extending from the knee several inches beyond the foot, kept the limb at rest by a bandage, and applied cold to the joint. Considerable inflammation followed, which was reduced by leeching and evaporating lotions; and, after ten days, all pain, swelling, &c., being removed, I applied a starch bandage round the ankle and leg.

In this state I left him, as the regiment was ordered into the field, enjoining rest and a continuance of the bandage, and advising that he should be sent to one of the hill stations, as the hot weather was at hand. For some months he went about on crutches without attempting to move the foot; but, after the fourth month, he could put the foot to the ground, and lean his whole weight on the limb; the least motion, however, gave him pain in the joint. At the end of the sixth month he could walk a considerable distance, though the exertion was followed by stiffness rather than pain.

In November last, the ninth month after the accident, he returned to the regiment, still complaining of weakness of the joint, but quite able to walk, and even undergo fatigue; and at the

present time he can walk as well as ever, suffers no inconvenience, and the shape and motion of the ankle are perfect.



SHAPE OF THE FOOT IMMEDIATELY AFTER THE ACCIDENT.

a, Malleolus. b, Displaced astragalus. c, Cavity in front

### RADICAL CURE OF HERNIA—SYMPTOMS OCCURRING SIMULATING PERITONITIS.

By JOHN REDFERN DAVIES, Esq., M.R.C.S. Eng.,  
SURGEON TO THE BIRMINGHAM WORKHOUSE INFIRMARY.

The following case, from symptoms of a peculiar and doubtful nature arising during the process of cure, may be worthy of record amongst the numerous other facts that are being elicited in the present day respecting the radical cure of hernia:—

S. H.—, aged seventeen, had been the subject of a direct inguinal hernia, of about the size of a walnut, for three years. It was operated upon by Wood's method, the only difference being the employment of scissors instead of a knife in the process of the subcutaneous dissection, and the intervention of a circular piece of india-rubber beneath the wooden disc. She progressed very favorably, the wires being withdrawn on the fifth day, the parts then looking well, and all but united by the first intention.

The day following the patient was still doing well. In the evening about ten P. M., I was informed she was very ill, and, upon seeing her, found her lying upon her back; knees drawn up; countenance anxious; pulse 120; skin hot and parched: complaining of pain all over the abdomen, but chiefly just above the pubis, where she could not bear the slightest pressure. The wound looked well, and there was less pain there than elsewhere. I knew not what to think. The symptoms were those of peritonitis; but how caused I could not conceive. Hot fomentations and large doses of ipecacuanha and opium were administered. In four hours afterwards she was in a profuse perspiration, and somewhat easier; and in another four hours the menstrual discharge appeared for the first time, and very copiously. At the same time all the symptoms rapidly abated, and by morning everything unpleasant had subsided, save that the wound now gaped, and there was a little suppuration from it.

A similar train of symptoms, but much less

in degree, again appeared upon the second menstrual flow, which occurred in about two weeks after the first. The radical cure of the hernia was, however, in nowise affected, and is as perfect as could be wished.

I would remark that the use of scissors instead of the knife very much facilitates the subcutaneous dissection of the parts, effecting it much more rapidly and evenly.

Birmingham, September, 1869

### REPORT OF A CASE OF TOTAL SUPPRESSION OF URINE.

By J. B. JEAFFRESON, Esq., M.R.C.S. &c. Sir-chey

I was called up about twelve P. M., on the 29th of March, 1859, to an Irishwoman in labor. When I saw her, she was in a state of syncope, and had been so for some time. She was about thirty-eight years of age, of a sallow complexion, and the mother of five children, all her former labors having been remarkable easy. She was now in the eighth month of pregnancy, and had told her friends that "she had not felt life in the child for the last fortnight." In the afternoon, she was reported to have had considerable flooding, though there were no signs of it about her when I saw her. She had felt unwell for some weeks previously, but there was nothing to account for the labor being premature. She continued fainting for some time, but after about twenty minutes consciousness returned, and labor-pains came on very rapidly. On examination, I found the os uteri dilated to about the size of a halfpenny, and very yielding, the head presenting, and the membranes entire. After a short time, I ruptured the membranes, and almost immediately a still-born child (between the seventh and eighth month) was expelled, and directly afterwards the placenta, membranes, and some dark clots of blood came away. The placenta was small, and very much congested. The uterus contracted firmly, and though at first she seemed inclined to faint, in a short period I left her very comfortable.

March 30th.—The husband came down about six A. M. to say that she was suffering great pain in the abdomen, so I sent her a draught containing one drachm each of laudanum and ether: to take half at once, and the other half in about an hour if necessary. When I saw her in the middle of the day she seemed pretty comfortable, but complained of a good deal of pain in the abdomen. The pulse was 88, small; skin cool; tongue tolerably clean and moist; the bowels had not been opened, nor had she passed any urine, but the bladder was not distended; the stomach very irritable. She takes nothing but a little barley-water, and that returns almost immediately.

31st.—When I called in the morning she was comfortably sleeping, so I did not disturb her. On going up a second time she was complaining of considerable pain in the left lumbar region

and in the abdomen, which was distended and tympanitic. She is constantly sick. There has been no secretion of milk, nor any lochial discharge. The bowels have not been opened, and she has passed no urine. I passed the catheter, but only drew off about half a drachm of urine. Ordered camphor, half a grain; calomel, one grain and a half; opium, a quarter of a grain: make pill, send six, take one every three hours. Dilute hydrocyanic acid, ten minims; spirit of nitrous ether, three drachms; nitrate of potash, half a drachm; water to six ounces: two tablespoonfuls every three hours; and to apply turpentine fomentations to the abdomen.

April 1st.—She still complains of great pain in the abdomen and left lumbar region. Is frequently sick. Pulse 84, small; tongue moist and rather white; skin cool; bowels have not been opened, nor has she passed a drop of urine; bladder empty. Ordered, calomel, six grains; compound extract of colocynth, ten grains; make four pills, two to be taken directly, and repeat four hours afterwards if necessary.

2nd.—Did not sleep at all last night: pain less in the lumbar region, but still considerable in the abdomen, which is tender on pressure; pulse about 100, small; skin cool and inclined to be moist; the bowels have been opened several times, but she has not passed a drop of urine. Ordered, carbonate of soda, one drachm; spirit of nitrous ether, three drachms; tincture of opium, twenty minims; water to four ounces: two tablespoonfuls every three or four hours, and to continue the turpentine fomentations to the abdomen. I saw her again in the evening, and she was much the same. Passed the catheter, but found no urine in the bladder. Administered a turpentine enema, and ordered, solution of acetate of morphia, one drachm (strength, one grain to one drachm); water, two ounces: one ounce to be taken directly, and repeated in three hours if necessary.

3rd.—She took one dose of the morphia last night, and had a little sleep after it. Seems pretty comfortable; is freer from pain, but complains of tenderness on pressure or on moving, over the region of the uterus; skin rather warm and moist; tongue coated with a brownish fur, and dry; pulse 96, rather more full; bowels still somewhat distended and tympanitic. The bowels have been relieved, but she has passed no urine, and there is none in the bladder; stomach still irritable. Ordered, acetate liquor of ammonia, two ounces; spirit of nitrous ether, three drachms; nitrate of potash, half a drachm; water to four ounces: two tablespoonfuls to be taken every four hours. Repeat the opiate at night.

4th.—Dozed a good deal in the night, and now seems rather drowsy. Is constantly sick, the vomited matter being principally bile and coagulated milk, which is all that she takes. She complains but little of pain, but the abdomen is tender on pressure; pulse 88; skin cool and moist; tongue coated, but moist. The bowels have again been opened, the evacuations green-

ish in color, and loose. Ordered balsam copai-ba, three drachms; spirit of nitrous ether, three drachms; solution of potass, three drachms; water to four ounces: two tablespoonfuls three times a day.

5th.—Is still very much inclined to doze; does not complain of pain, except when she moves; abdomen somewhat distended, and very tender on pressure, tongue dry and coated; skin cool and moist; continues very sick; bowels have been moved this morning; evacuations loose and very dark colored; not a drop of urine.—Two P. M.: She appears to be getting more drowsy, but can be roused; there is a good deal of singultus. Ordered to take some gin, and to have another turpentine enema; but she seemed so weak that the latter was not administered.

6th.—Is very drowsy, but only sleeps for a few minutes at a time; does not complain of much pain; skin cool, and has been perspiring; tongue moist, furred in the centre, but inclined to be clean at the tip and edges; pulse 96, small, and feeble; is still very sick; bowels have been opened, but she has passed no urine; takes nothing but a little gin and a small quantity of milk.

7th.—Seems much weaker; skin cool; tongue very dry, brown, and swollen; pulse 100, rather fuller, but very compressible; is still very sick, and now takes nothing at all; dozes at times; bowels have been opened; evacuations loose and watery. She continued in this state until about three P. M., when she died without any convulsions, and remaining perfectly conscious almost to the last.

Unfortunately, owing to the prejudices of the Irish, no examination of the body was allowed.

*Remarks.*—The most remarkable features of the above case are—first, the length of time which the patient survived, with total suppression of urine. In most recorded cases, where the suppression has been so complete, four or five days have generally carried off the sufferer. And, secondly, the entire absence of all the ordinary symptoms of uræmic poisoning. There was no headache; no urinary smell in the fæces, perspiration, or matter vomited; no convulsions; and though during the last few days she seemed inclined to be drowsy, still there was nothing like coma up to the time of her death. In fact, the only urgent symptoms were the constant vomiting, and, for the first few days, the pain about the abdomen, which, however, towards the end of the time which she lived, was very much less. There was no appearance of the milk or lochial discharge, but all the other secretory organs retained their functions till the last: the bowels remaining open, after the first few days, without the use of aperients; both the fæces and matter vomited containing large quantities of bile; and the skin being generally moist, and sometimes with a considerable amount of perspiration.

Monmouthshire, 1869.

## CAN THE GARDEN SLUG LIVE IN THE HUMAN STOMACH?

By DAVID DICKMAN, Esq. M.R.C.S.

Sarah Ann C—, aged twelve years, had, for the last two months, complained of feeling sick at times, particularly after meals. On the 5th of August last, she vomited up a large garden slug, which was alive and very active. On the 6th, she brought up two, both alive; and on the night of the 7th she was seized with violent vomiting and relaxation of the bowels, and threw up five more, of various sizes, the smallest two inches long, and all alive.

On the morning of the 8th, when I first saw her, vomiting and purging had ceased, and she complained of great pain in the left region of the stomach, and headache. I gave her opiate powders, which relieved her in every way till the afternoon of the 9th, when she felt something crawling up her throat. This sensation brought on the most violent efforts of vomiting to expel what she felt at the upper part of her throat, and she frequently introduced her fingers to seize what she felt, but did not succeed. I happened to call just when all this suffering was beginning to subside, at which time the sensation was felt lower—about half way between the mouth and the stomach. As expulsion by vomiting seemed hopeless, it occurred to me that ammonia and camphor might destroy the creature, and that the digestive powers of the stomach would do the rest when the animal was dead. The dose was repeated every four hours for two days, and afterwards three times a day for two days more, with entire success. An aperient powder was given every night. After the first dose of the ammonia and camphor, all sensation of movement ceased; and she now appears as well as ever she was.

During the summer she had gone frequently into the garden and eaten freely of its produce, especially of lettuces, of which she was very fond. It appears to me that a family of very young slugs had been feeding on the lettuces, which the child had swallowed with very little mastication, and the gastric juice not being strong enough to act on them when alive, they fed and grew in their new habitation to their usual dimensions. During the time they must have been in the stomach, she was fonder than ever of vegetables and fruits, and would put aside the meat on her plate, and eat the vegetables only.

The three slugs that came up first were not preserved; but, at my request, the five others have been kept alive, and fed on vegetables, which they preferred being cooked, having at first refused to eat them raw. They are now fed on raw vegetables.

Another circumstance connected with my interesting patient is, that she was born without the left hand. During pregnancy the mother was frightened by a porcupine that an organ boy had in the street; and an impression ever after re-

mained on her mind that something would not be right with the child's hand.

Forchester-place, Oxford-square, Sept. 1859.

## ON TWO CASES OF UNUSUAL DISCHARGE OF CARBONACEOUS MATTER FROM THE NARES AND INTESTINES.

By M. BROKE GALLWEY, Esq.,

SURGEON-MAJOR, ROYAL ARTILLERY.

The profession is indebted to Dr. Druitt for an able and very practical paper, introduced to its notice in a contemporary journal, on a Morbid Condition of the Nasal Passages; which, while it is a source of great uneasiness, on moral grounds, to the patient, is not unfrequently the occasion of much embarrassment to the physician. There are but few practitioners of any experience who have not been consulted on such cases; and, in the higher walks of life, a young aspirant for favor, consulted for the first time by a refined and fastidious patient, *might* make or mar his fortune, in proportion as he succeeded or failed in his recognition and management of such a case. The first time I encountered *ozæna* myself, was in the person of the butler of a capricious but sharp-witted old lady, to whom her favorite domestic had become a personal inconvenience from the ailment in question, and who pressed me very hard for a categorical explanation of the *fons et origo mali* in this case. Having but very lately escaped from the schools, and being but an indifferent match, as a tactician, for my subtle inquisitor, I unluckily winced, if, indeed, I did not ingenuously admit my ignorance of the case, and fell in consequence fifty per cent. in the eyes of my tormentor. I say, then, that Dr. Druitt has done good service to medicine and to his junior brethren by his seasonable exposition of a tiresome and embarrassing complaint. I avail myself of the occasion to put on record, very briefly, the details, not of a case in point, but of a remarkable discharge from the nostrils, which lately fell under my notice, and which to myself is as unique as it is anomalous in its nature.

A married lady, having occasion suddenly to use her pocket-handkerchief, discovered the latter to have become the recipient, from both nostrils, of a quantity of dry and intensely black powder, as exactly resembling soot (the term she applied to it herself), or finely levigated charcoal, as any two distinct substances could well resemble each other. This discharge was unprecedented and unattended by coughing, pain, uneasiness, or by any other physical indication of the presence of foreign matter in the nose or throat. *De plus*, it appeared to come from the part, and not from a distance; certainly not from the lungs or bronchial glands, being unprecedented by cough. Moreover, it was not only not suspended in the nasal secretion, but, on the contrary, was deposited on the handkerchief as a dry carbonaceous powder. This curious state

of things had presented itself on five several occasions in the course of nine months, and at different periods of the day and night. The subject of it had not been using charcoal as a dentifrice, nor exposed to the fumes of that substance in any way; indeed, on each occasion it occurred in the summer months, and when removed from the influence of fires of every kind. Will Dr. Druitt, or any other physiologist, enlighten us with the rationale of this occurrence? My patient has, from time to time, been much troubled with acne punctata on the external nares, as well as on the back and shoulders. Her temperament is one in which nerve preponderates largely over blood; her age, between thirty-five and forty. Is it possible for the system to disembarass itself of carbon in excess in a solid form, and by such anomalous outlets as the nose; the mucous membrane, in this direction, becoming vicarious to the ordinary channels that discharge this element from the body?

Although not falling legitimately within the same category of morbid changes, I shall avail myself of the opportunity also to record a case of deposit of a sooty discharge from the vessels of another mucous membrane, at a considerable distance from the foregoing. I had administered but a single three-grain dose of the ammoniated citrate of iron to a married lady, aged about forty-five, when I was summoned, the morning after, in great alarm, to account for a sudden and enormous discharge from the bowels of what she described to me as soot, and which she had preserved for my inspection. On examining the vessel into which it had been passed, I was not a little surprised to find its interior besmeared throughout with what exactly resembled soot to the eye, a quantity of the same being suspended in a watery alvine evacuation with which it had come away; the patient having been for some time under my hands for diarrhoea, connected with an atonic state of the chylipoietic functions and, I may say, of the general system at large. The influence of iron in blackening the stools being so very different, in general, from that exercised in the present case, and operating only, in my own experience, after an interval of some days, I did not at first suspect this medicine of being chargeable with the results before me,—the less so when I reflected upon the insignificance of the quantity my patient had taken (a single dose),—and accordingly desired her to persist in the use of the remedy; with the result, however, of augmented discharges of the same material. She then abandoned the medicine, and the sooty dejection began to disappear, although not until after an interval of two or three days subsequent to its disuse. Has this singular effect of iron been witnessed before? and is it peculiar to the form in which I prescribed it? For twenty years I have employed the remedy pretty largely, but never with similar results before, or indeed with any other than a general blackening

of the intestinal excreta. In the present case the carbonaceous deposit diffused itself throughout the sides and bottom of the containing vessel, and was suspended on the surface of its contents, rather than intermixed with the body of the latter.

Although selecting *oxæna* as the text for my present paper, I shall venture very briefly to introduce another subject into it,—not to trespass unnecessarily upon the crowded pages of *THE LANCET* with a second contribution.

While penning the foregoing few observations, the discussion at the Medical Society of London upon some cases of sudden severe pain in the great toe, succeeded immediately afterwards by ecchymosis, more or less extensive, up the corresponding foot, has met my eye in the pages of the periodicals. I desire to add to the cases adduced on that occasion by different speakers, the following, which came under my notice:—

A married lady, of nervous temperament and feeble circulation, while sitting at dinner, on an intensely cold day, observed the back of one of her hands *suddenly* to become discolored over an area of about three inches, the discoloration continuing to extend as she fixed her attention upon the part. Her hand had not sustained any violence, nor was there any departure whatever from her customary state of health beyond the somewhat severe invasion of chilblains upon the feet. The back of her hand presented much the appearance of a severe bruise, save that the bluish-black appearance was not relieved by the usual variegated tinting of that condition.—Neither pain nor tenderness preceded, accompanied, or followed it. In a fortnight it had disappeared.

Corfu, 1859.

## A Mirror OF THE PRACTICE OF MEDICINE AND SURGERY IN THE HOSPITALS OF LONDON.

Nulla est alia pro certo noscendi via, nisi quam plurimas et mæberrum et dissectionum historias, tam aliorum proprias, collectas laboret inter se comparare.—MORGAGNI. *De Sed. et Caus. Morb.*, lib. 14. Proœmium.

### ST. MARY'S HOSPITAL.

*Wound of the Iris from an Iron Chip; Removal by the aid of a Magnet; Excision of two Eyeballs, the second having contained a piece of glass for thirty years.*

(Under the care of Mr. WHITE COOPER.)

During the past season many cases of interest have presented themselves in the ophthalmic department of this hospital. Of these we propose to select a few.

On May 18th, a girl, aged fourteen, was brought



to the hospital. The previous day, whilst standing near her father, who was turning a piece of hardened iron in a lathe, a chip struck her left eye, which had since been in constant pain, though the sight was not materially affected. On examination, the chip was seen sticking in the iris about midway between its upper border and the pupil; the anterior chamber was full, and there was no mark in the cornea, the wound having instantly closed after the passage of the foreign body.

Mr. White Cooper, fearing that difficulty would arise in grasping the smooth metal with forceps, suspended as it was in the loose membrane, decided on trying the effect of a magnet. The iris having been brought under the influence of atropine, whereby the foreign body was drawn near the margin of the cornea, the patient was chloroformed, and a cataract knife was passed through the cornea opposite the chip, and a sufficient opening made for its escape. A magnet was then applied to the wound, and in an instant the chip leaped from its situation in the eye, and attached itself to the magnet. The lips were then closed with adhesive plaster, and cold water dressings applied. No bad symptoms followed, and the eye was well in a week.

On the same day (May 18th) two other cases of interest occurred.

A young woman, when a child, had received a blow from stone upon the left eye. Inflammation followed; the globe slowly but constantly enlarged, and at length attained an enormous size, presenting not only a ghastly appearance, but of late causing serious irritation in the other eye. Mr. White Cooper excised the eye on the above day with great facility. Not a teaspoonful of blood was lost, and the patient left the hospital on the eighth day after the operation, a false eye having been inserted on the previous day. From that time the irritation in the other eye ceased, and she was enabled to resume her employment as a needlewoman.

In contrast to the facility with which this eye was removed, stands the following case operated upon on the same day:—

Mrs. B—, aged thirty-four, when eight years old fell through a window and severely wounded her left eye. It was carefully examined at the same time, and there was no suspicion of any particle of glass having lodged in the globe. The wound in time healed, but the eye had ever been a source of suffering and annoyance; it diminished in size, and lost its mobility; and there was a sharp darting pain felt from time to time at the back of the eye which no one could satisfactorily explain. As the vision of the right eye had become impaired, and symptoms of sympathetic inflammation were unmistakably manifesting themselves, removal of the injured eye was recommended by Mr. Cooper, and performed by him on the 18th.

The first peculiarity that presented itself was adhesion of the globe to the socket. When the conjunctiva and fascia have been divided, the eye-

ball generally starts forward; but in the present instance it remained glued, as it were, to the bone. Mr. Cooper endeavored to break through the posterior adhesions with his finger, but, to his surprise, as he did so, the tip of the finger was deeply pierced by some sharp substance. With great difficulty, and after careful dissection, the eyeball was detached, and it was then ascertained that a splinter of glass lay half in and half out of the eye, near the optic nerve; and it was doubtless the irritation excited by this which had caused the formation of the adhesions by which the globe was firmly attached posteriorly to the socket. The bleeding was free at the time, and secondary hæmorrhage occurred during the night; this is very rare after excision of the eye, and doubtless arose from the condition of the vessels which had participated in the morbid action excited by the fragment of glass. The patient was also attacked with erysipelas of the face to a serious extent; but notwithstanding these drawbacks she ultimately made a good recovery.

On examination of the excised eye, the retina was found to have been converted into a cup of bone, similar degeneration having solidified the lens. One half of the splinter of glass lay between the sclerotic and the bone-shell; the other half projected through the sclerotic near the optic nerve. The sharp pain so often complained of was thus explained. The fragment of glass must have remained in the eye nearly thirty years, and the patient may be considered fortunate to have preserved the other eye so long.

Another case of long presence of a foreign body in the eye has presented itself recently to Mr. Cooper.

A clergyman when a student at Oxford was struck by a shot in his right eye, which was blinded by the accident. The wound healed with little disfigurement, but the eye was a constant source of torment, being the seat of neuralgic pains and frequent inflammations. The globe was excised by Mr. White Cooper on the 9th of last August, and on examination by Dr. Bader, at Moorfields, the inner surface of the choroid was found to be lined by a shell of bone, the retina was displaced and funnel-shaped, and in the space between the bone-shell and retina lay a shot suspended in cellular tissue, having been in the eye upwards of thirty years.

Extirpation of the eye has been performed in five cases, all of which have done well. Mr. Cooper has usually introduced a false eye about the seventh day, and finds this early introduction useful in preventing the formation of bands during cicatrization, which often materially interfere with the adjustment of an artificial eye.

#### ST. BARTHOLOMEW'S HOSPITAL.

*The value of the Topical Application of Arsenic in Cases of Foul and Intractable Ulcers.*

(Under the care of Mr. M. WHINNIE.)

Those who have followed Mr. M. Whinnie's practice at this hospital will have observed how

much is to be attained by the topical application of arsenic, and will confirm the opinion expressed by Mr. Abernethy as to what he termed its *corrigent* effects on the morbid action of sores. Its use has been extended not only to foul ulcers of the fingers and toes, syphilitic or otherwise, but also to the irritable ulceration attending in growing nails, whitlows, &c. As a remedial agent in certain cases of lupus, in epithelial and other forms of superficial cancer, and in intractable ulcers, it is quite as efficacious as the chloride of zinc, is attended with less pain, and, with care, is as harmless as it is manageable.

In speaking of the corrigent effects of arsenic on the morbid action of sores, Mr. Abernethy, in his "Lectures on Surgery," says that the cases which best illustrate these are those peculiar ulcers which frequently occur on the toes and sometimes on the fingers. They are extremely painful at night, preventing sleep, resisting every variety of application for years; and yet, he observes, they readily get well when arsenic is employed. Sir Henry Holland remarks, in his "Notes and Reflections," that "it is well that every practitioner should keep in mind the expediency of attaining all that is possible by external remedies; a discreet preference strongly sanctioned by modern research is in nowise incompatible with the bold and sufficient use of internal means when called for by the more urgent necessities of practice."

Notwithstanding the objections which have been urged by some writers against the use of arsenic as a topical agent, Mr. M'Whinnie states that it will be found a mild, safe, and efficient caustic, when properly applied, and one that can be depended upon; but its employment must be confined to the hands of the careful surgeon, who must not only apply it with caution himself, but particularly avoid trusting its employment to the patient. In a large experience of its use he (Mr. M'Whinnie) has not met with any bad or dangerous consequences, thus agreeing with Bielt and others, who have expressed themselves to the same effect.

The following are a few briefly-reported instances of its curative effects, which we have observed at St. Bartholomew's Hospital:—

A case of severe and long standing syphilitic ulceration of the toes, sole, and dorsum of the foot, gradually extending, in a patient of about forty years of age. The sores were dressed, and an application made of the arsenical solution. This acted like a charm, so that in a few days so much relief was afforded that, whilst before he had the greatest difficulty in reaching the door from a vehicle, the patient could now walk a considerable distance; the sores became cleansed and healthy, and soon cicatrized with black wash and simple cerate.

In a case of large ulcerated bursa of the patella of many months' duration, which had resisted all modes of treatment previously employed, a solution of the arsenic of potash in

spirit and glycerine (about three grains to three ounces of fluid) was applied on lint. This produced a marked improvement, being speedily followed by healthy granulations and subsequent cicatrization.

In those parts subject to pressure or friction, as in the former case, after the sores were gently painted over with the arsenical paste, pieces of simple dressing, perforated like the *cérat troué* or *linge fenestré* of the French, were applied, over which were placed shreds of soft lint or cotton-wool, lightly confined by a roller. These were allowed to remain undisturbed two or three days. The pain, which is sometimes rather severe, (though not so great as that produced by chloride of zinc,) is relieved by a soft poultice applied over the whole dressing, or by moistening the latter, and giving a sedative internally. After the lapse of the time mentioned, the dressings are removed, and simple black wash or cerate, or dilute citrine, or mild red precipitate ointment is used.

Besides the cases just mentioned, Mr. M'Whinnie has found the same plan of treatment very effective in those where the skin is undermined by strumous abscesses, and in the excavated venereal buboes and other sores seen in the foul wards. He advocates its use, also, in fistulous tracks and sinuses, and in sores which are slow to heal after having been laid open. In the strumous variety, the application of the iodide of lead ointment at intervals completes the cure.

The formula in use at St. Bartholomew's Hospital is a mixture composed of arsenious acid and calomel, in the proportion of from two to eight hundred parts of the former, the remainder being principally composed of the latter, with carmine.

The arsenious acid is much to be preferred when made into a paste with gum or plain water, and it can then be readily used with a camel's-hair brush. This is a modification of the paste originally recommended by Frère Come, and is chosen by Mr. M'Whinnie as the best, after having tested the various modes of application recommended by Blicke, Abernethy, Dupuytren, and others. This paste produces no detrimental effect upon the system; the greater the extent of the surface, however, the more must the paste be diluted. It is considered as efficacious as the chloride of zinc in epithelial cancer, and its application is less painful, being chosen in preference to the knife when practicable. In onychia and in growing of the nails its effects are astonishing. In lupus the same results have been obtained; and although its employment is by no means new, yet the good effects seen at this hospital justify an extended trial in those cases of peculiar ulceration which would seem occasionally to resist all the usual modes of treatment pursued.

## ST. GEORGE'S HOSPITAL.

*Strangulated Femoral and Umbilical Hernia in Women—the last associated with Pregnancy; Herniotomy successful in two out of four cases.*

(Under the care of Mr. TATUM and Mr. P. HEWETT.)

The first three of the following cases were such as are usually met with in women; that is to say, the protruding portion of bowel consisted of a small knuckle, which had passed through the femoral ring. A fatal result ensued in the first and third; in the former, from the hæmorrhage poured out by a branch of the epigastric; in the latter, from the extreme collapse which was present even before an operation was performed. The fourth case was one of umbilical rupture, accompanied by pregnancy, but which did not prevent a good recovery, although there was some difficulty experienced in arresting troublesome hæmorrhage, a peculiarity which was present also in the second case. In all the sac was opened.

For the notes of these cases we are indebted to Mr. George F. Cooper, surgical registrar to the hospital.

CASE 1.—A. T— was admitted, under Mr. Prescott Hewett's care, on the 4th of January, for strangulated femoral hernia. She had had a hernia in the left side for the last six months, but it could be always easily reduced. She never wore a truss. Four days ago, she found she could not return it; sickness soon came on, and has continued since.

On admission, she was in a state of great collapse, having constant stercoraceous vomiting and acute tenderness over the abdomen and hernial tumour. An operation was immediately performed. The sac was opened, and found to contain a small knuckle of gut, which was much congested, and a small piece of omentum, which was removed; the stricture was very deep and tight. Directly after the operation, the bowels acted very copiously. She was given twenty minims of tincture of opium.

Jan. 7th.—She was a little sick this morning. The tenderness of the abdomen was rather less, though still severe. There was considerable tympanitis. Her tongue was moist, skin cool and pulse 100 and jerking. The wound looked healthy, and had partially healed. She was given calomel and opium every six hours.

8th.—Was delirious this morning; her pulse was 120, and very weak; tongue dry; and she was in a very low state. There was more tenderness over the abdomen. The edges of the wound were of a dark colour. The calomel and opium were repeated every three hours, and she was also given brandy and port wine; but towards evening she sank.

The autopsy showed the following:—The peritoneal cavity contained much blood, reaching as high as the small omentum, and coating the various viscera; but the largest quantity was in the pelvis. The gut and omentum that had been strangulated were lying at a distance

from the femoral ring five feet from the ileo-cæcal valve, and were evidently recovering themselves. No vessel could be found wounded, except a very small one which was given off from a branch of the epigastric artery.

CASE 2.—A. F—, aged fifty-two, was admitted, on July 10th, under Mr. Prescott Hewett's care, for strangulated femoral hernia. She had had a hernia on the left side for the last ten years, for which she had always worn a truss.—When it came down she could never return it herself, always requiring the aid of a medical man; and this reduction gave her much pain. Five years ago she was in Guy's Hospital for symptoms of strangulation, but the gut was then returned by means of a hot bath and taxis. It had not been down since last November until three hours ago, and directly afterwards sickness came on. Hot baths and taxis were tried, but in vain; so, five hours after the strangulation took place, an operation was performed.—The sac was opened, and found to contain nothing but a small knuckle of intestine, not much congested. Directly the stricture was divided, which was the inner portion of Poupart's ligament and the gut returned, a jet of blood took place, which was of such a size that it came evidently from some considerable vessel. Mr. Hewett managed to ligature one end of the artery by simply drawing down the sac of the hernia, by which means it was exposed; but the other end he could not get hold of at all until he cut through and averted Gimbernat's ligament, and then just beneath this he saw the vessel bleeding, which was accordingly secured.

The woman did very well, and on August 17th, thirty-eight days after the operation, she left the hospital.

CASE 3.—E. Y—, aged fifty-one, was admitted on August 17th, under the care of Mr. Tatum, for severe constipation and stercoraceous vomiting, she having suffered from the former for the last six days, and from the latter for about twenty-four hours. Until the day of her admission she had applied to no one; but, on that day, she called in a medical man, who gave her an enema, but the whole of it was directly returned. She stated she had had a hernia for four or five years past, but had never worn a truss. On admission, besides the constipation and vomiting, she was in a state of great collapse, had some tenderness over her abdomen, and complained of a tender swelling in the right groin, which was examined, and declared to be an inflamed gland. Nothing could be felt below this; but, on account of the extreme urgency of the symptoms, an operation was proposed. She was then quite cold; her pulse could scarcely be felt; in fact, she was moribund. Beneath the inflamed gland, a small aqueous cyst was found, and still deeper, a small strangulated piece of intestine. The sac was opened and found to contain about half an ounce of milky fluid; a knuckle of intestine of the size of a filbert, not very dark in color, and which became even light—

er before returned; and a small piece of omentum, which was adherent to the sac, and was accordingly left there. The woman did not rally at all, and in about half an hour she died. An autopsy showed some peritonitis. There was also a band of lymph encircling three parts of the gut, which was recovering itself, showing the original stricture.

CASE 4.—H. M.—, aged thirty-nine, was admitted on July 30th, under Mr. Prescott Hewett for strangulated umbilical hernia. The patient stated that, seven or eight years ago, whilst pulling a box from beneath a bed, she ruptured herself in the umbilical region, since which time she had always worn a bandage to support the hernia, but it never returned into the cavity of the abdomen. It never gave her any inconvenience till a month ago, when she felt some pain in the tumor, and since then it had gradually increased in size; it had also been getting painful and harder to the touch.—On admission, she said that she was four months advanced in pregnancy; she had had two children since she had been ruptured, but they had never affected the hernia in any way. The bowels had not acted for five days, and since then she had been frequently sick. An operation was performed immediately. On dividing the stricture, which consisted of a large piece of omentum encircling a small knuckle of the transverse colon, a vessel of the size of a crow-quill was cut across. The divided ends were so situated that there was some considerable difficulty in securing them; for one was attached to the omentum, whilst the other was lying on the surface of the gut, thereby rendering it very difficult to take up the latter without injuring the bowel. A little sloughing of the integuments followed the operation, and slight peritonitis; but she soon recovered from these, and on August 30th left the hospital.

#### GUY'S HOSPITAL

##### *Leucocythæmia Spleni a.*

(Under the care of Dr. WILKS.)

To the student who has to make himself familiar with the different varieties of disease, it is important sometimes to be enabled to examine a typical case, especially when it may happen to be one of the rarer forms. This opportunity is at the present time afforded by a young man twenty years of age (but who has the appearance of a lad of fifteen), in Guy's Hospital, who was admitted on the 15th of July, and who is laboring under the disease described by Dr. Hughes Bennett, of Edinburgh, as *Leucocythæmia*, which is characterized by an excess of white corpuscles in the blood, supposed to depend upon disease of the spleen. In this patient, who is from Newham, in Sussex, there is considerable enlargement of the spleen (which is quite prominent), associated with an excess of white corpuscles in the blood and a normal quantity of the red. No

other diseased condition of body has been observed, although at the present time he has a cough, resulting from a recent cold. He has not suffered from ague, but is now taking six-grain doses of quinine every four hours, with the application of the compound iodine ointment to the left side over the enlarged spleen. This affection has the name of *splenica* affixed to it to distinguish it from the *Anæmia lymphatica*, a disease which was illustrated in our "Mirror" and in which, as we had occasion to mention, there is no excess of white corpuscles. The expression "*leucocythæmia lymphatica*," therefore, is contradictory in itself, and must yield to the one adopted by Dr. Wilks, which we have already brought before the notice of our readers.

##### *Carcinomatous Growth over the front part of the Cranium; Successful Removal.*

(Under the care of Dr. BRYANT.)

At first sight, the series of irregular prominences over the front part of the head of the patient who was the subject of the following case might have been taken for a number of sebaceous tumours of the scalp on the eve of suppurating. Very shortly after operative proceedings were commenced, their true nature was discovered to be carcinomatous, and as much of the disease was taken away as the safety of the patient permitted. A wound exhibiting less promise of healing we have seldom seen; nevertheless, as stated in the notes of the case, the edges of the diseased skin were the first to unite by adhesion, and ultimately the woman left the hospital quite well, with no appearance of a return of the disease, although it must be looked for at a later period.

H. C.—, a healthy-looking woman, aged twenty-four, was admitted under the care of Mr. Bryant on the 1st of June last. She had always enjoyed good health, and three years previously she first observed a tumour over the left frontal eminence, about the size of a small nut, and quite movable. Two or three months afterwards she discovered several others over the left frontal bone, and these have been gradually enlarging.

When admitted, there was a large irregular tumour over the left parietal bone, about the size of a fist; it presented an uneven and nodular surface, was closely connected with the integument, and appeared to be tightly bound down to the skull. Upon manipulation, it gave a tense, semi-elastic sensation, and caused but little pain.

At the patient's express wish, the tumour was excised, although its character was very doubtful. On the first incision, the nature of the growth was clearly manifested. The skin was in parts infiltrated with carcinomatous material, and the bone was exposed and rough. As much of the tumour as could be removed was taken away, and the edges of the wound adjusted.

This subsequently healed kindly, although the portions of the disease which were left were in a progressive condition.

There is one point of interest connected with the healing of the wound—namely, that the only part which united by primary union was the diseased one; the healthy edges granulating. This has now been seen to take place upon several occasions, and it appears to point out the extreme activity of the cell development, as this union must have taken place through cell structure and those especially which are called malignant.

#### WESTMINSTER HOSPITAL.

##### *Severe wound of the Throat and Larynx in an attempt at Suicide; Recovery.*

(Under the care of Mr. HILLMAN.)

It has been asserted by a great authority (Mr. Porter, "On the Pathology of the Larynx and Trachea") that the number of intended suicides that succeed in accomplishing their desperate purpose is infinitely greater than those that are subsequently saved, although it rarely happens that the wound is from its nature necessarily mortal. This refers to wounds of the windpipe. When the great bloodvessels are not involved, if such injuries prove fatal, it has been attributed rather to the circumstance of the patients lying a long time undiscovered, without receiving any assistance, than to any amount of hæmorrhage that may have ensued. An example of this kind recently occurred in St. James's-park, of a most desperate attempt at suicide, in which the patient all but perished from the injury; yet after lying insensible the greater part of the night, recovered sufficiently to be enabled to rise and actually walk to an hospital for relief. The public are already familiar, through the daily press, with the circumstances of the act. At the time, however, very little hope was entertained of a recovery. The nature of the wound was such as to give rise to serious apprehensions; but to the absence of any symptoms of inflammation, regret for the performance of the act, and the possession of previous good health, is the recovery mainly due.

The wound in the throat of this man occupied the situation most generally chosen in attempts at self-destruction—namely, between the hyoid bone and thyroid cartilage, and, of course, was out of the way of the great vessels, although the incisions were commenced far enough at the side, where the bloodvessels are comparatively superficial.

For the notes of the following case we are indebted to Mr. W. N. Pell, house-surgeon to the hospital:—

William B—, aged forty, a man of color, and a cab-driver, was admitted on the 13th of September, under the care of Mr. Hillman. On Monday, the 12th, when in St. James's-park, at half past seven o'clock in the evening, in a fit of

despondency he made an attempt to cut his throat with a razor, inflicting as many as four or five great gashes with his left hand. After this he must have fainted from loss of blood, and have lain on the ground until a quarter-past six the next morning, when he succeeded in raising himself, and walked to the hospital without assistance, his clothes being saturated with blood. On examining his throat, it was observed to have been jaggedly cut in three or four places; one, upwards of two inches long, occupied the right side, cutting through the skin and the fibres of the sterno-mastoid muscle; another, much larger commenced an inch lower down, and extended from the middle of the sterno-mastoid on the right side to the same muscle on the left side of the neck, with jagged and irregular edges, as if several cuts were made to accomplish it; this larger incision extended into the mouth through the pharynx in one direction, and into the thyroid cartilage in the other, particularly through its upper part, which seemed nearly divided into two portions. This cartilage was therefore exposed, and the finger could be passed through the divided thyro-hyoid membrane into the epiglottis above, and into the larynx and trachea below; whilst fluids, when taken into the mouth, poured out of the upper part of the wound. The throat was full of coagulated blood, which was removed by the house-surgeon, who put a few sutures into the wound, leaving its central part open. Union by adhesion occurred to some extent, but the remainder closed by granulation, wet lint being applied to the wound from the time of admission. No inflammatory symptoms occurred to interfere with union; he was well supported by nourishing diet and stimulants, and is now (Oct. 3rd) convalescent, and able to converse without difficulty or inconvenience. A portion of the central flap of the wound has yet to skin over, although the opening into the larynx has become completely closed.

#### ROYAL FREE HOSPITAL.

##### *Perineal Fistula, the result of Stricture of the Urethra, healed by the daily use of the Catheter.*

(Under the care of Mr. WEEDEN COOKE.)

When a perineal fistula is small and of recent origin, and the stricture of the urethra which gave rise to it becomes easily dilatable, it will, in many instances, heal pretty readily, more especially if a catheter be regularly employed to draw off the urine, and thus prevent its contact with the false passage outwardly. This occurrence we have seen many times, and the following case is an example of the kind, which healed up in the course of three weeks. The notes were furnished us by Mr. Nathaniel Hall, house-surgeon to the hospital:—

P. P—, aged fifty, admitted on the 2nd of September, with a permanent stricture of the urethra, and a perineal fistula, situated midway between the anus and scrotum, of some weeks'

duration. The greater part of his urine was passed through the fistula, the edges of which were indurated, and the surrounding skin much reddened and inflamed from contact with the urine. Mr. Cooke succeeded in passing a No. 5 catheter, which drew off a quantity of very offensive ammoniacal urine. This treatment was persevered in night and morning for two weeks, when the urine became perfectly clear and healthy, the patient not being allowed on any single occasion to empty the bladder himself. In the meantime the perineal fistula completely healed; the stricture became larger, and would readily admit a No. 8 catheter. His general health greatly improved, and he left the hospital on the 24th very much benefitted by the treatment employed.

It will be readily understood, that if the stricture in the foregoing instance had been a tough and irritable one associated with a number of extensive fistulae, the same plan of treatment would not have proved effectual without some other adjunct.

#### *Wound of the Neck and exposure of the Carotid Artery; Recovery.*

(Under the care of Mr. ALEX. MARSDEN.)

A boy, eleven years of age, was brought into the hospital one morning in August, having sustained a wound of the right side of his neck a week previously, by falling on the knife of a chaff cutter. The injury was a clean incised wound, two inches long, running vertically across the course of the great vessels of the neck, and wounding the sheath of the common carotid artery. A great deal of hæmorrhage occurred at the time, and it is most probable that the external jugular vein was wounded. On his admission the carotid could be distinctly seen pulsating. Having been left an open wound for a week, it was now allowed to heal up by granulation, which it did, contraction gradually ensuing until a small opening remained at either end of the incision. These subsequently closed, and the lad left the hospital quite well.

It is somewhat singular that the wound should have penetrated the sheath without injury to its contents, and there can be no doubt that the artery itself was not in the slightest degree injured.

#### "DREADNOUGHT" HOSPITAL SHIP.

##### *Death during the Inhalation of Chloroform.*

The history of the following case, from notes supplied by Mr. Bedford, physicians' assistant, is an exemplification of the manner in which death may occur during the inhalation of chloroform, from sudden cessation of the heart's action. It will be seen by what immediately succeeds that nothing unusual, except on the part of the patient, occurred during the administration. The time occupied was not less than twenty-five minutes. The whole amount of chloroform used was

not more than two drachms and a half. The chloroform itself, supplied by Messrs. Hodgkinson and Co., was perfectly pure, and in good condition (as since tested), and portions of the same sample had been recently used with benefit in other cases. The whole amount given was divided into four doses, the first consisting of a drachm, and the three succeeding doses of half a drachm each. These were given at intervals of not less than six minutes. With regard to the patient himself, he was a young man of twenty-four years of age, the subject of a syphilitic affection, and recovering from an æmemic condition. The chloroform was given at his own particular desire. The details of the case are as under:—

Chloroform was administered to the patient in the recumbent position, and the process began at half past two P. M., on the 7th of October, by the man being made to breathe the vapor from a drachm of chloroform poured on lint enclosed in a long, hollow cone, perforated at the apex for the free admission of air, and consisting of a layer of oiled silk within a layer of brown paper. At the end of the first five minutes, during which due care had been taken to ensure the plentiful admixture of fresh air with the vapor of the chloroform, the usual exhilarating effect had commenced; but the vapor of this first drachm having to a great extent evaporated, half a drachm more was poured upon the lint. From its being necessary, however, to delay the operation—the extensive application of nitric acid—after the patient had taken a few inhalations, the administration was suspended for three minutes, during which he inhaled freely of fresh air, and was so sensible as to remark that he liked the smell of the chloroform. Before reapplying the apparatus, half a drachm more chloroform was poured upon the lint. At the end of the next five minutes, he had re-entered the exhilarated state; but being sensitive to pain, half a drachm more of the anæsthetic, in another minute, was poured upon the lint. At this time Mr. Bedford's whole attention was confined to the patient, and whilst he watched the eye and chest, Mr. Hochee (a surgeon present) kept his finger on the pulse. After the patient had been exposed to the influence of this third dose for not more than three minutes, he passed on to a condition in which, though he talked incoherently, yet he breathed freely, the heart beat steadily, and he flinched at the escharotic effect of the acid, drawing his knees together, as it were, to prevent the approach of the cause of pain. More acid having yet to be applied, and the patient being in the above condition, not more than twenty minims of chloroform were added to the lint. No immediate effect followed—no gasping—no symptoms of rapidly passing into an insensible state; but at the end of two minutes, as he was lying in the above condition—as the eye and chest were watched, and Mr. Hochee kept his finger on the pulse, Mr. Bedford noticed his face suddenly to become pallid, and the respiration cease; at the same time

Mr. Hochee observed the pulse stop, and the operator has since said that he was sensible of the subsidence of the resisting efforts. Restorative measures were immediately resorted to, such as dashing the chest and face with cold water, and the application of the vapor of strong ammonia to the nostrils; but no immediate reaction following, artificial respiration, by Marshall Hall's Method, was at once begun. At the expiration of a few minutes, natural efforts at breathing recommenced, but were not attended with any appreciable pulsation of the heart, or other encouraging symptoms. Here, for a moment, artificial respiration was discontinued, but, the natural respiratory efforts subsiding, was quickly recommenced, and afterwards kept up as long as an hour and twenty minutes, or until it was evident to all that the patient was irrecoverable.

At a post-mortem examination of the body, twenty-four hours after death, there was not discovered any disease either of the heart or lungs; but the different viscera were found in the following condition:—The brain healthy with regard to its consistency and structure, but its veins and sinuses gorged with highly carbonized fluid blood, and the spinal cord had its vessels in the same condition. From the position of these vessels, the fluid condition of the blood, and the time the man was lying on his back, no correct estimate can be formed of the exact state of the vessels at the time of death. The lungs were, as shown by their dark color and weight, also charged with blood in the same condition, though structurally healthy. The heart was found flaccid, its cavities dilated with blood, and larger than natural. On removal from the body, *all* the blood, which was of the highly carbonized character above mentioned, drained from the cavities, and the organ by itself weighed fully fifteen ounces, the unusual weight being due not to increase of the muscular walls, but to the actual size of the heart. On further and careful examination, no abnormality or structural change, diseased or otherwise, could be detected. The other viscera, beyond being charged with the dark, uncoagulated blood, presented no points of interest. The immediate cause of death seems to have been paralysis of the heart. It may be conjectured that this state was induced either by the direct influence upon its nervous ganglia and muscular fibre, produced by the carbonic acid and chloroform in the blood, or secondarily through the action of the blood, thus altered in its properties, accumulating upon the brain and medulla oblongata.

#### CUMBERLAND INFIRMARY.

##### *Ovari-tomy.*

[Under the care of Mr. W. B. PAGE.]

From Notes taken by Mr. DUBREUX, House Surgeon.

ELIZABETH D—, aged forty-two, native of Carlisle, washer-woman, admitted June 1st, 1859. She states that about sixteen or seven-

teen years ago there was a pain in the right side of the abdomen, which continued for about a month. A year afterwards she perceived slight enlargement on the same side, unaccompanied by any feelings of discomfort. This has gradually increased, but much more rapidly during the last six months. The catamenia never appeared at regular intervals, and they have been quite absent during the last six months.—She was never married, and has had no children.

The measurement round the abdomen, an inch above the umbilicus, is thirty-eight inches and a half. The os uteri is healthy, and the uterus free. General health good. The absence of pain at any time during the growth of the tumor, the apparent freedom of motion of the abdominal walls over its surface, and the mobility of the uterus, together with the good health of the woman, seemed favorable to the extirpation of the tumor. The uncertainties and the dangers of the operation were fully and fairly explained to her, as well as the advantages which might result from palliative measures. Some time was given for consideration, but she still desired to submit to the operation. Professor Simpson, who visited the infirmary with Mr. Page during the woman's stay, made a careful examination, and altogether concurred in the propriety of the operation.

July 4th.—The arrangements for the operation were made in accordance with directions given in the report of a successful case published by Mr. Page in THE LANCET of April 5th, 1845. An incision was commenced in the median line, about an inch below the umbilicus, and carried downwards towards the pubis to the extent of about two inches and a half; and after some further dissection the peritoneum was arrived at, which was seen gliding over the surface of the tumor. At this time there was some oozing of blood from several small vessels, which was quickly arrested by the application of cold sponges. The peritoneum was then slit up, on a director, to the extent of the external wound. The walls of the cyst now came into view, and no adhesions were detected by means of a finger introduced and passed over its anterior surface. A long trocar was then thrust into it, giving vent to a dark grumous-looking fluid which was conveyed through a canula into a tube made of table oil-cloth rolled upon itself, and afterwards caught in a vessel placed on the floor. During the time cyst was emptying itself, the abdomen was gently supported on each side of the wound. As soon as the walls of the cyst became flaccid they were seized by a vulsellum and gently drawn out of the wound, and when empty, the orifice of the canula was closed by a wooden plug, and another trocar pushed into another cyst, the walls of which were also caught by a vulsellum. The fluids from the cysts much resembled each other. When the second cyst was nearly empty, the wound was enlarged downwards to the extent of an inch and a quarter, as there was difficulty in withdrawing



the tumor; and by means of gentle traction the whole growth was drawn out of the abdomen and remained attached by the pedicle. Several smaller cysts were found on its surface as the tumor was thrust forward. A clamp was then applied and the pedicle divided. The lips of the wound were brought together by means of hair-lip pins with silver-wire sutures. In addition to their piercing the walls of the abdomen, the pins were made to include the peritoneum to the extent of about one-third of an inch from each divided edge. The abdomen was then slightly compressed by a many-tailed flannel bandage, and the patient lifted into bed by means of a sheet and blanket previously placed beneath her. During the first steps of the operation chloroform was exhibited; but before she was fairly under its influence vomiting supervened, and it was discontinued. Afterwards she behaved admirably. A little weak brandy-and-water was given twice. The operation was concluded in about an hour and a quarter, the discharge of the fluid occupying exactly an hour. The first cyst contained eighteen pints, the second fourteen, and the smaller ones about a pint and a half. The specific gravity of the fluid was 1033, and it contained a large quantity of albumen. Under the microscope, finely-granular cells, oil globules, some blood corpuscles, and numerous plates of cholesterine, were observed. The walls of the tumor partook of a fibrous structure of the multilocular variety. The bag weighed nearly four pounds; and contained the right ovary, from which the cysts were developed. The pedicle included the right Fallopian tube, and the broad and round ligaments of that side.

Immediately after the operation the pulse was 100 in the minute. The patient expressed herself as being quite comfortable, and continued so during the remainder of the day, with the exception of slight pain in the lumbar region.—Pulse continued at 100. The urine was drawn off by a catheter. A suppository containing a quarter of a grain of morphia was introduced, and she had some tea and bread-and-butter, after taking which she vomited once. At twelve p.m. she was comfortably asleep.

5th.—Eight a.m.: Has slept at short intervals during the night, and awoke in excellent spirits; after taking an egg and some tea this morning, she vomited; still complains of pain in the lumbar region, but says it is not more severe than before the operation; pulse 120; urine normal, drawn off by the catheter, quantity about twelve ounces; tongue clean and moist. Suppository repeated; to have a little brandy-and-water and some ice.—Half past nine p.m.: The vomiting had continued troublesome until about three o'clock, when she fell asleep, and has now awoke; the expression of her face is slightly anxious; appears rather restless; complains of pain over the abdomen; pulse 140 since eleven a.m.; tongue slightly furred; urine drawn off by the

catheter. To have three drachms of brandy every hour.

7th.—Half-past one a.m.: Has slept during the last three quarters of an hour; vomited once since ten o'clock; continues very restless; expression more anxious; pulse 130; urine drawn off by the catheter.—Eight a.m.: Has had no sleep; vomiting more urgent; pain increased over the abdomen, which is slightly distended; pulse 126. To have sherry wine instead of brandy.—Nine a.m.: Continues very restless; vomited twice since she commenced the wine; extremities cold, and the whole surface covered with a clammy perspiration; expression very pinched; pulse 145, very weak; is sinking fast. To have enema of beef-tea, brandy, and opium every three hours; and to take five grains of sesquicarbonate of ammonia, with fifteen minims of chloric ether, every two hours; also to suck small pieces of ice.

8th.—Eight a.m.: Died.

*Autopsy, twenty-seven hours after death.*—The abdomen is much distended. The edges of the wound above the clamp are only slightly united. On opening the abdomen, the diaphragm is seen much arched upwards; the parietal portion of the peritoneum is much injected; that radiating from the clamp is inflamed, and has large flakes of lowly-organized lymph loosely adherent to it. About a pint of serum had gravitated into the pelvis, and when the viscera were moved, a large quantity of lymph became mixed with it, so as to raise the suspicion of its being pus from an abscess. No blood was found in the cavity.—The uterus was free from inflammation, and the left ovary was healthy. The remaining abdominal viscera were free from disease. Thorax: No adhesion between the layers of the pleura on either side, and the lungs and heart healthy.

*Remarks*—The above notes were condensed from those taken in the hospital report-book by the house-surgeon, and are published to aid in perfecting the statistics of this operation. From the history and symptoms, it will be seen that there could not have been a more favorable case, and the operation was completed without any accident; in fact, the only untoward circumstance connected with it was the unfortunate result.

#### ABERDEEN ROYAL INFIRMARY.

##### *Osteo-Sarcoma of the Leg, removed by Amputation.*

(Under the care of Dr. KEITH.)

On the 21st ultimo, we had the opportunity of seeing an amputation of the leg, performed in this hospital, by Dr. Keith, for osteo-sarcoma of the tibia. The case was one of considerable interest, for it had been of eight years duration, in a young woman twenty-one years of age, who had been working in the fields as a farm servant up to a fortnight before, at which time she injured the leg, which caused some amount of ulceration below the tumour. The growth itself

was fully as large as a good-sized cocoa-nut with a considerable amount of general swelling, and seemed to involve the centre of the tibia, being remarkably prominent in front, but extending backwards among the muscles of the calf of the right leg. At the upper and anterior part of the tumour, which had especially increased within four months, projected several fungous masses, pretty clearly showing the nature of the disease. Below this the integument was sound; but on the surface of the leg, beyond the tumour inferiorly, it was in a state of ulceration. This was, as we understood, the part recently injured. The diagnosis was clear enough as to the nature of the disease, and amputation was resorted to by the antero posterior flap operation, performed by transfixion, the anterior flap being made first. No tourniquet was applied, but the femoral artery was ably commanded in the groin by Dr. Redfern. Notwithstanding this, however, a little more hæmorrhage than usual occurred. With the assistance of Dr. Pirrie, all the vessels were secured, and the stump dressed in the following manner:— After the edges of the flaps were adjusted by sutures, a strip of lint, smeared over with simple ointment, was applied over the wound, then several pieces of dry lint, and a light bandage over all. Chloroform was given on lint, and the patient was speedily insensible, the administrator being guided in its effects solely by the pulse.

A longitudinal section of the limb was afterwards made, and a good example of the peripheral form of cancer of bone was presented to view, with the development of bony spiculæ in various parts of the growth. And we here witnessed what is often seen in similar cases — namely, the altered appearance of the surrounding muscular structures by contamination from the disease. The healthy color of the muscles was destroyed; they looked as if they had undergone partial maceration. This abnormal change seemed also to pervade the muscles of the thigh, which would thus seem to have participated in the same diseased action.

We have no doubt that a good recovery will ensue from the operation. Dr. Keith's experience, however, in such cases agrees with that of many other observers, in that the disease is sure to return within twenty months. The morbid action, in the present instance, was confined solely to the tibia, the articulations above and below being quite healthy.

*Atrophic Scirrhus of the female Breast;  
Amputation.*

(Under the care of Dr. PIRRIE.)

The right breast of this patient, who was sixty-seven years of age, had been diseased for eighteen months, possibly much longer; but her attention was first attracted to it at that time. The gland generally seemed to have undergone an atrophic contraction, as is often witnessed in old people. Round the nipple the skin was affected by infiltration, and occupied an oval space, meas-

uring four inches in its longest and three inches in its shortest diameter, the color being a deep crimson. After chloroform had been administered, an elliptical incision was made by Dr. Pirrie from right to left, including within it the whole of the diseased skin, and the entire gland was rapidly extirpated. There was scarcely any blood lost; the edges of the wound were brought together by sutures, a few strips of pink court plaster were now applied, then a few pledgets of lint, and a bandage round the chest.

An examination of the removed gland showed it to have degenerated into a comparatively small mass of scirrhus, the greater part of it having shrunk away by a species of atrophic absorption, as we have noticed on many occasions.

## Clinical Records.

### UNION OF A COMMINUTED FRACTURE IN A WOMAN AGED 84 YEARS.

For the following notes we are indebted to to Mr. Buckmaster Joseph Tuck, dresser to Mr. Hilton:—

Frances E——, aged eighty-four, a lunatic, who has been confined for forty-eight years in the Guy's Hospital Lueatic Asylum, slipped down two steps on the first of June last. On being sent for to see her, Mr. Tuck found a comminuted fracture of the tibia and fibula at the lower third; the parts around the fracture became swollen and dark immediately, and a good deal of pain was present. The leg was immediately put up in a back and two side splints, and bandaged so as to leave the place of fracture exposed, in order to allow of examination of the fractured bone without disturbing the apparatus, and also to permit the application of an evaporating lotion. She was carefully watched, night and day. The splints were occasionally taken off partially, in order to ascertain that no parts were unduly pressed upon.

On July 23rd, seven weeks and a half after the accident, the splints were taken off. The bones were found to have united firmly; there was no deformity, and only very slight thickening of the bone. A piece of gutta percha was moulded to the leg as a back splint, and starch bandages applied over this; the leg was then swung until it was dry, it being necessary to put on some firm apparatus which should prevent the patient injuring herself when she had a paroxysm.

### TUBERCULOCELE.

Castration was performed by Mr. Curling and Mr. Critchett at the London Hospital, in the month of August, in two cases of tuberculocele.

The first was in a man, aged thirty-one, a sailor, who was admitted on 31st August. The disease was of eight months' duration and the organ had attained to the size of the fist from tuber-

culous disease. It was therefore removed, and the man made a good recovery, the remaining organ being quite healthy.

In the second instance the mischief was more especially confined to the head of the epididymis, which had formed a suppurating tumour, commencing with tuberculous deposit five months before. The patient, whose age was thirty-eight, suffered much from pain, and was most anxious to have the gland removed, which Mr. Curling consented to do, in the propriety of which his colleague, Mr. Ward, fully concurred. After it was taken away, the body of the testicle was found to be sound; but the whole of the epididymus was engaged in the disease, thus destroying its proper functions; the vas deferens was also involved, and the morbid action extended upwards to the groin. This had produced general enlargement to double the natural size. The man made an excellent recovery, and has left the hospital.

In these cases of tuberculous disease of the testicle and the cord, no other treatment than complete removal will prove serviceable.

#### NECEPHALOCELE, WITH CONGENITAL HERNIA; REMOVAL.

The circumstances attending the growth and origin of encephaloid tumours of the testicle vary greatly. Sometimes they are traced to a blow, cause great pain during their progress, and proceed rapidly; at others, as in the following case, they arise insensibly, advance slowly, and painlessly mature.

This patient was admitted into St. Mary's Hospital, under the care of Mr. Coulson, on the 15th of July last. He was forty-three years of age, and was the subject of a globular scrotal tumour on the left side, of the size of a cocoon, firm, smooth, and giving no sensation of fluctuation; the skin was non-adherent, moving loosely over the whole mass. He had first become aware of a little swelling at the upper part of the scrotum five years prior to his admission. This swelling gradually but painlessly increased. It was chiefly the weight of the tumour which incommoded him. On examination, the cord was felt to be apparently healthy, and the right scrotum seemed to be free from disease. Mr. Coulson introduced a grooved needle, and nothing exuded but the blood drawn from the vessels of the skin. Believing it to be a tumour requiring removal, although of doubtful character, an operation was decided on. Two incisions were made longitudinally, in such a way as to allow of the excision of the distended integument of the scrotum, at the same time that the tumour together with the testis were removed. A congenital hernia existed on the same side, and a portion of omentum had descended into the tunica vaginalis, which, during the operation, was readily reduced. The operation was easily performed, but a large number of bleeding vessels had to be secured. The tumour, when incised, appeared as a solid mass contained in a

fibrous capsule. Its proper substance was soft, elastic, and glistening, and marked in brownish-pink and blood colors, and presenting in some parts the appearance of cerebral matter. The great mass of the disease was contained in distinct cysts of various sizes, and some of the larger cysts enclosed occasional smaller ones, and all contained solid matter. On pressure, yellowish serum mixed with blood escaped. Under the microscope, the contents of the cysts were found to consist principally of larger cells, containing nuclei with nucleoli. Most of the cells were large, but no poly-nucleated cells could be seen. No trace of the true gland-substance remained.

The patient progressed rapidly towards recovery, and at the end of a fortnight the wound had nearly healed.

#### RENAL CALCULUS, THE NUCLEUS OF A STONE IN THE BLADDER.

A young man was admitted into Guy's Hospital in the early part of August, under Mr. Hilton's care, with the history that he had suffered from pain in his left kidney for some time, which was followed by cystitis. He was treated for the latter without benefit, and was sent up to town. He was examined with a sound, and a stone readily detected. His bladder was so very irritable that he could not retain more than a teaspoonful of urine at a time; and although the stone was not very large, lithotomy was chosen in preference to crushing. That operation was performed by Mr. Hilton, on the 16th of August, who removed a phosphatic calculus the size of a walnut; it had crumbled away, was very soft, and situated high up in the bladder. The largest portion of the stone removed showed the nucleus to be a renal calculus, composed of lithic acid; which most probably had passed along the ureters into the bladder (six months before, as was estimated), and had thus given rise to the symptoms complained of, with the formation of the phosphatic calculus during that period of time.

The operation was followed by occasional attacks of hæmorrhage, and some days afterwards he died, when there was found extensive pyelitis, and diseased kidneys and bladder. Previous to the passage of the renal calculus, which had thus become the nucleus of stone in the bladder, he had enjoyed tolerable health.

#### VAGINITIS IN A GIRL AGED TEN YEARS.

Inflammation of the vagina in a child or young girl is by no means of frequent occurrence in our hospitals. The discharge is not necessarily of a gonorrhoeal character, but it may have arisen from neglect, exposure to cold, bad feeding, or want of cleanliness. In a girl ten years of age, at the present time in the Royal Free Hospital, under Mr. Weeden Cooke's care, it has been attributed especially to the latter cause, together with a want of the necessaries of life

in an eminently strumous constitution. Her aspect is delicate and scrofulous, the glands of the neck are enlarged, and she is the subject of worms. She was admitted on the 21st ultimo. The vaginal symptoms first appeared a month before that date. The discharge is yielding to the employment of a sulphate of zinc lotion. Her face is red, and there is sore-throat, as if she had scarlatina. She is being well fed, now that the acute character of the inflammation has subsided, and presents an appearance very different from what she had on her admission.

#### OPERATION FOR VESICO VAGINAL FISTULA.

The different methods in use for closing up vaginal fistulæ communicating with the bladder must be now familiar enough to the profession. An inconvenience often experienced is, the presence of the opening sometimes far up the passage, which renders the closure difficult. On the 6th August we saw this difficulty overcome by Mr. Fergusson, at King's College Hospital, in the following manner:—An elderly woman had been the subject of a large opening between the bladder and vagina, arising from one of her labors; this was so far successfully managed by a surgeon at Reading that a small aperture only now remained,—so small, indeed, as to be difficult to detect, yet it still allowed the urine to dribble away. Several operations had previously been performed to get it even into its present condition, and now the opening was situated a little behind the commencement of the urethra, and admitted the point of a fine silver probe. The patient was placed upon a table on her hands and knees; the parts were held asunder by assistants, and the posterior wall elevated with a spatula. A probe was now passed into the urethra, which entered the bladder and then emerged through the fistula, now drawn forwards by the instrument. This permitted ready manipulation and easy paring of the margins of the opening, and closure by a single suture. Chloroform was not given. A catheter was retained in the bladder for some days, and it was believed that a complete and effectual cure was obtained. This we subsequently learned was permanent.

#### COMPLETE PROLAPSUS UTERI; VALUE OF STEEL CLAMPS IN THE OPERATION FOR ITS RELIEF.

In each of the two following cases, which were submitted to operation, in the Samaritan Hospital, by Dr. Routh, a steel clamp was employed to hold the deep sutures, in place of the shot now used by many obstetric surgeons. The clamps appeared to secure the iron-wire sutures more effectually than shot, and there was less risk of the edges of the wound giving way, and consequently sloughing. The operation was quite successful in both.

The first case was that of a healthy woman, of fair complexion, who was admitted on the 15th of December 1858, under Dr. Routh's care,

with complete prolapsus uteri. The uterus first came down about three days after the birth of her second child, and when admitted, had been completely prolapsed for twelve months. The usual operation was performed on the 30th of December, and the deep sutures removed on the 3rd of January, when the wound was found to be perfectly united inside. On the 5th, the superficial sutures were removed. There was a small slough at the upper part of the wound, which separated on the 7th.

Jan. 8th.—Bowels acted after an enema.

13th.—To lie outside the bed for the first time.

15th.—Wound entirely healed.

20th.—To wear a perineal bandage, and walk about.

26th.—Left the hospital.

There had been no descent of the uterus since the operation, and the wound is perfectly united.

The second case was that of a married woman, aged fifty-two, who was admitted on the 24th of February, 1859. Her history is, that two years ago, after carrying heavy weights, she had partial prolapsus of the womb, and six months ago it came down completely. On the 26th of February, Dr. Routh operated in the usual way, uniting the deeper sutures by means of steel clamps in the place of shot, thereby doing away with the usual sloughing; he also passed them through a modification of Startin's needle.

March 1st.—The deeper sutures were removed; there was no sloughing. The wound is perfectly united inside.

6th.—Discontinue passing the catheter.

8th.—Contents of bowels evacuated by an enema.

20th.—The wound has gradually healed, and she is now able to lie outside the bed without difficulty. There is no bearing-down pain, and the uterus has not come down at all. She was discharged, cured.

#### SUPPOSED ENCEPHALOID TUMOR OF THE AXILLA, EXTENDING ABOVE THE CLAVICLE.

A patient was lately discharged from University College Hospital with a tumor of the axilla, which is supposed to be medullary. As it has extended above the clavicle, and probably within the chest, Mr. Erichsen very properly declined to perform any operation for relief. Besides the above, the inguinal glands were enlarged, and the system generally seemed contaminated. The following short history and notes of the case were taken by Mr. C. J. Stewart, the dresser of the patient:

George C—, aged forty-three, coachmaker, native of London, admitted June 18th, 1859. Has been married ten years; has one child, a girl, quite well; his wife is also in good health. The patient states that he has ever been steady, and enjoyed very good health, although always weakly. His father died nine years ago of bronchitis, aged seventy; "scorbutic habit." Mother, aged seventy, living, quite well. Had seven brothers and two sisters; five of his bro-

thers died of phthisis when young. He states that two years and a half ago he noticed a small lump in the right axilla; it increased very slowly until within the last six months, when it began to grow rapidly. It is very painful when touched. The present measurements are—from clavicle to lowest part of tumor, eight inches; laterally, from sternum, seven inches. He is now extremely weak and emaciated. There is also a small lump forming above the clavicle.

June 27th. Feels better and stronger.

30th. Continues to improve in health. Pulse—right radial 75, small and feeble; left radial 90, full, soft.

The patient left the hospital early in July, with the tumor stationary, but with his health somewhat improved. His general weakness, pallor, and various glandular enlargements render it probable that the disease is that of *anæmia lymphatica*.

#### CONTRACTILE STRICTURE CURED BY INTERNAL INCISION.

The treatment of contractile and intractable stricture of the urethra is a subject which offers to the surgeon abundant means for reflection and study. The patient and continued use of bougies of various sizes and shapes, and the most careful and persistent dilatation, will occasionally fail to effect a cure. Under such circumstances, the least severe form of operation by cutting is that which appears most desirable. In some cases of intractable stricture of the urethra, under the care of Mr. Coulson, at Saint Mary's Hospital, he has adopted the plan of internal division of the stricture, employing an instrument which allows of the exact limitation of the division to the tissues affected, and liberates the tissue by very slight incisions.

One case was that of a man admitted into the accident ward of the hospital with a fit of retention of the urine. His stricture was of old standing; several fits of retention had lately occurred, which had been temporarily relieved by warm baths and opiates. Treatment by dilatation was ineffectual to relieve him; and of late he had been unable properly to follow his ordinary avocation. Internal division was performed in this case; and immediately afterwards Mr. Coulson passed a large-sized bougie, which was retained for twenty-four hours. The improvement was permanent, and the patient left the hospital cured.

#### A MOLE ON THE CHEEK BECOMING CANCEROUS.

Moles, when irritated or scratched will sometimes become the nidus of cancer, and may take on extension by ulceration, which will resemble *lupus exedens*, unless arrested by treatment. Such cases are, doubtless, familiar to most surgeons.

We examined a man aged forty-one, on the 30th of August at the Cancer Hospital, who was at one time the subject of a small mole on the

cheek, midway between the malar bone and the ala of the nostril. Eighteen months ago he cut it with a razor whilst shaving, and it bled freely. This was shortly after followed by some inflammation and the occurrence of a superficial ulcer, which had all the characters of *epithelioma*; indeed it might be said to be in an early stage of *lupus*. He was treated by the local application of lead-and-soap plaster, with temperate diet. By these means the sore has completely healed, and he was pronounced cured, and discharged from the hospital.

In contrast with the foregoing, we observed two cases worthy of note, one of lupoid cancer on the surface of the lower half of the nose, close to the tip, in a man aged fifty-four, who has had it in the form of an excavated ulcer for five or six years. Under treatment it has become smaller, cleaner and more healthy, with less secretion. The other case was one of epithelial cancer of the left lower eyelid, of eleven years' duration, in a man aged sixty-three. It had completely destroyed the lid, and formed a semi-circular excavation, extending from the inner canthus to the outer angle of the eye.—Its progress is being arrested; but the healing process is extremely slow, although the surface has a healthy appearance, with but little secretion.

#### FUNGUS TESTIS

A hernia of the testis usually arises after the perforation of its fibrous covering by an abscess, the protrusion consisting for the most part of the tubuli. If the functions of the organ, notwithstanding its displacement, are sound, the treatment of Mr. Syme is generally adopted—that of making semi-elliptical incisions on either side of the fungus, removing the narrow edge of skin around it, then bringing the healthy skin over it from side to side, and applying sutures in the usual manner. This operation we have seen done many times with success, and amongst others by Mr. Fergusson, at King's College Hospital. Many surgeons believe that the integrity of the organ is either wholly or partially destroyed; and they therefore either perform castration, or shave off the projecting mass, and then bring the edges of the skin together. This latter proceeding we saw adopted by Mr. James Lane, on the 17th ult., on a man about thirty years of age, in whom the fungus was the result of an abscess only three months before. There was no strumous deposit in the testicle, but its surfaces were shaved off until healthy tubular structure was apparently reached, when the skin was brought over it. Although the parts have since healed up, of course procreative power is lost on the side operated upon.

#### THE EARLY REMOVAL OF GLOSSAL CANCERS

When a malignant growth upon some part of the tongue has not only increased in size, but has become perhaps extensively ulcerated, the

difficulty of complete removal is at once apparent, and we most commonly have recourse to other measures, which sometimes, although rarely, may prove curative. The powdered sulphate of copper, as locally used by Dr. Marsden at the Cancer Hospital, has actually healed up ulcerated cancers of this organ—a fact of considerable importance. On the other hand, when a tumor is present on the side or anterior part of the tongue, and has only just commenced to ulcerate, if removed by the knife, possibly the patient may enjoy a complete immunity from the disease. Such a case came under notice on the 2nd ult., at Guy's Hospital, in the person of a woman seventy-seven years of age. A tumor of the size of a small chestnut appeared on the left side of the tongue, rather upon its anterior surface, had been slowly growing for six or seven months, and had commenced to ulcerate on its surface, the ulceration partaking of the usual character of epithelioma. It was excised by Mr. Hilton with a scalpel, and was not attended with any bleeding of consequence, although one small vessel required tying. The patient is doing very well, and the wound has healed. Early and complete extirpation of epithelioma, before any of the neighboring lymphatics have become affected, offers, we think, as good a chance of non-recurrence in the tongue as in almost any other part of the body.

#### RUPIA PROMINENS.

This form of skin disease is by no means rare, and is commonly witnessed in syphilitic wards. We notice an instance of it here, because there was a peculiarity associated with it worthy of attention.

A man, twenty-three years of age, was admitted into the Charing-cross Hospital, with a rupial eruption, a gonorrhoea, and enlarged cervical glands, which he stated to have been present since last Christmas. There was some ulceration about the glans penis, which was locally treated (during the warm weather) by the application of a black wash, which caused sloughing of the organ; it was therefore changed for another lotion of sulphate of zinc, after which the sloughing ceased. This effect is not usually perceived to result from the black wash, and may have been mainly produced in some way by the extreme heat then prevalent. He was under Dr. Willshire's care for the eruption about his arms and back, on which were conical crusts resembling the shell of a small mussel. These were disappearing slowly under the use of the syrup of the iodide of iron.

#### CANCER OF THE LEFT TONSIL.

Whilst we have described cases of epithelial cancer affecting the lips, cheeks, tongue, and gums—in fact, all the essential parts entering into the formation of the mouth and oral cavity, we have not before noticed its extension to the auces, or, more properly speaking, its idiopathic

appearance in the tonsil. Rare as this position of the disease seems to be, independent of extension of the malady from other parts, yet we had an opportunity of examining a remarkably distinct example of it, on the 30th of August, at the Cancer Hospital, in a man forty-nine years of age, admitted on the 5th, under Dr. Marsden's care. It was not noticed by the patient until March last, and shortly afterwards the glands in the neck of the same side (left) began to enlarge, and are now very prominent. He is an old smoker and chewer of tobacco, and his appearance is that of a healthy and robust man. On looking into the throat, the entire left tonsil appears to have been eaten away by the ulcerative process of the disease, forming a large excavation, which is surrounded by the isthmus and left pillar of the fauces, also ulcerated at their margins by contact with the disease. The uvula is unaffected.

The patient has been too short a time under treatment to exhibit any striking change for the better; but the situation is so extremely inconvenient, and the general contamination of the system is such, that not much is to be expected beyond mere palliation. Hereditary predisposition is well made out, for his sister had a cancer of the breast, under which we understand she succumbed.

On looking into the records of cancer of the throat, we meet with instances in which the tonsils were engaged, it was mostly so in connexion with disease in other parts of the body. The present case, therefore, is one of unusual interest and importance. The disease is clearly epithelial.

#### MINOR MISCELLANIES.

*A Row of Sebaceous Tumors on the Scalp.*—An unusual peculiarity was noticed in connexion with some ten or twelve sebaceous tumors on the scalp of a woman, aged about forty, at King's College Hospital, on the 13th ult. They occupied the central line of the head from before backwards, where the hair is parted; and although they had previously been removed, they had recurred several times, as we understood Mr. Mulke to say. He removed them on this occasion in the usual way. We think the teeth of the comb which the patient employs about her hair, have a good deal to do with the induction of these tumors—a cause which is recognised to be pretty frequent in women.

*Ezema Impetiginodes.*—In the month of July, we noticed a little boy, six years of age, in the Charing-cross Hospital, who had an eruption of vesicles, which had become purulent, both on the head and over the whole of the back, produced by eczema impetiginodes. He was admitted in this condition on the 20th, and in a very short time the back became quite well by the local application of aqua calcis and the use of mild alteratives; the head also yielded to treatment, but the character of eczema and im-

petigo intermingled was at one time well marked.

*Pedunculated Adipos: Tumour.*—Mr. Hulke excised a fatty tumor from the upper and inner part of the left thigh of an elderly woman, under chloroform, on the 13th ult., which had the peculiarity of being pendulous and shaped like a finger, but which, on removal, was found to be much larger, as well as extending deeply inwards.

*Parotid Tumour.*—A growth, of the size of a small orange, was removed from the situation of the parotid on the left side of the neck, by Mr. Stanley, at St. Bartholomew's Hospital, on the 23rd ult. The patient was an elderly man, aged fifty-two, in whom it had been coming on slowly for two years. It consisted of a number of loose masses of tissue, which seemed to be malignant disease. The wound was stuffed with lint, and allowed to heal up by suppuration.

### Medical Societies.

OCTOBER—NOVEMBER.

MEDICAL SOCIETY OF LONDON.

MR. HILTON, F.R.S., PRESIDENT.

THE Society held its first meeting for the session on the 10th October. There was a large attendance of Fellows and visitors.

#### INHALATION OF OXYGEN.

Dr. E. Smith inquired if any member had had experience of the inhalation of oxygen in cases of anæmia and debility? From the experiments of Sir H. Davy, and on rational grounds, he did not see how it could be of service.

Dr. Mackenzie had had a number of experiments with oxygen. In only one instance did it seem to be of any benefit. This was the case of a gentleman, who had long been in bad health, suffering from asthma, gout, and dropsy. The effect of the inhalation of the oxygen was to increase the quantity of urine in a remarkable manner. The patient seemed benefited by it.

After a few words from other members the subject was dropped.

Mr. Hilton related a case of

#### FOREIGN BODY IN THE TRACHEA.

The patient was a child six months old, who was brought to Guy's Hospital six hours after "a square piece of apple" had slipped down the larynx in an effort to swallow. On listening to the chest, it was evident that the orifice of the right bronchus was nearly filled up by a foreign body, which, however, was evidently moveable. There was more croupy noise than is usual in such cases. Mr. Hilton passed his finger into the mouth, and felt what he thought was the square piece of apple, but could not remove it.

He determined on performing tracheotomy; and, after making his incisions, he turned the child over on its face. By this means the blood was prevented entering the trachea. A semi-lunar piece of apple, half an inch long, was expelled from the wound with a gurgling noise. It was now evident that the hard square body he had felt on passing his finger into the child's mouth was not the piece of apple, but probably a portion of the cricoid cartilage. The child did well; but there was still some roughness in the breathing, as if from the passage of air over the united trachea.

Mr. Haynes Walton mentioned two cases in which death followed the operation of tracheotomy from the escape of blood into the opening. He was glad to hear of the plan followed by Mr. Hilton in the case related, as it was doubtless an efficient means of preventing the flow of blood into the wound. A case had been lately reported by Mr. Cock, in which he had refrained from removing the foreign body (a bead) until the bleeding had ceased.

Mr. Henry Thompson read a paper on

#### THE VALUE OF INTERNAL INCISION IN THE TREATMENT OF OBSTINATE STRICTURES OF THE URETHRA.

He premised that it was not his object to advocate any one method exclusively; in no complaint was there more necessity for the exercise of a sound discrimination. He considered, in common with most surgeons, that dilatation was not equal to the cure of all cases of stricture; and for many of those exceptional cases internal incision, properly applied, was of great value. Many hazardous modes of performing it had been practised, and so occasioned a prejudice against the internal operations altogether. The method he had employed was that which had been largely used by Civale, which he had carefully studied; and the mode of applying it, the kind of stricture to which it was best adapted, and the results produced, were considered in detail. The great advantage derived from it was this, that it rendered a stricture which was before wholly nondilatable easily amenable to that treatment. It was a safe and mild form of urethrotomy, which was not to be regarded as antagonistic or competitive with the process of dilatation, but as facilitating its application. Several cases were adduced, treated in the University College Hospital and elsewhere, the results of which were extremely satisfactory. (The paper will be found at page 384 of the current number of this journal.)

Mr. Coulson said that the Society must feel indebted to the author for having brought the subject under its consideration. Having adopted internal urethrotomy both in public and private practice, he was enabled to speak of its merits, and the plan of performing the operation. There was one indispensable condition—namely, that the operation should be preceded and followed by dilatation: without first dilating the stricture, the urethrotome could not be carried



behind it ; and after the operation was performed, unless dilatation was employed, the stricture would certainly return. The operation was, in fact, an aid to dilatation, which it rendered more easy, prompt, and effectual. The objection naturally arose, that if the urethra could be so dilated as to admit the bulbous part of the instrument behind the stricture, why should not dilatation be continued until the cure was effected by this means? But it was well known that cases often presented themselves in which dilatation could be carried only to a certain extent, and that far short of restoring the natural calibre of the canal ; cases in which the contractility of the stricture was so great that retention would frequently ensue as the consequence of attempts to carry dilatation to the necessary point. The part of the urethra in which he (Mr. Coulson) had most frequently performed the operation was in the anterior four inches of the canal ; sometimes close to the urethral orifice, and at other times further back ; involving sometimes only a ring-like stricture, and at others a length of tissue two or three inches in extent. He would allude to one point which the author had omitted,—namely, that the removal of the stricture, if elongated, might require the operation to be repeated on two or three occasions, as in such cases the whole of the stricture could not always be divided at one time, with prudence. He believed that the operation, when carefully and properly performed, was attended with very little pain, much less indeed than that attending the forcible use of the catheter or bougie ; and he had not known any injurious results to arise from it. If any danger attended the operation it would be when it was performed at the bulb, and to strictures at that site he had not often applied it. The instrument used should be of simple construction, easily handled, and above all, one which would readily divide the existing tissues without dragging or lacerating the indurated parts or pushing before it the yielding walls of the urethra. He believed that the urethrotome of Civiale, which the author had exhibited, was best suited to the purpose. For contractions of the orifice, or stricture near the aperture, he considered that a closed bistoury, such as he then exhibited to the Society, was the preferable instrument. The incision should be generally carried along the inferior surface of the canal but in some cases it was necessary to divide laterally in order satisfactorily to relieve the stricture ; and after the operation a full-sized catheter should be introduced, and left *in situ* from twelve to twenty-four hours. Mr. Coulson repeated that this proceeding was only applicable, in his opinion, to those exceptional cases in which patient dilatation failed to effect a cure.

Mr. Haynes Walton was glad to see this subject treated by one who practised surgery generally, and not by one who made it a mere speciality. He had seen some of the practice

originated by Safford, but thought it unsatisfactory, probably because dilatation was not employed also ; but united to this process as proposed, he believed it would afford a good result. He believed Syme's operation had been much misapplied, and that very bad results had happened in many cases in consequence.

Dr. Routh would express no opinion on the treatment of strictures, but observing how many methods of treatment had been brought before this Society, wished that some method of collecting statistics in reference to them could be adopted.

Mr. Birkett approved of the paper on account of its practical bearing. He was in the habit very frequently of dividing strictures anterior to the scrotum, and generally did so with a director and a bistoury ; and he thought more complicated instruments unnecessary. He had never seen any bad result whatever from the practice. He thought more difficulty might attend a division of stricture in the bulbous portion. He should have been glad to know what the value of incision was in traumatic strictures, which he believed to be common.

Mr. Ladd, Mr. Cornish, and one or two other members, made some observations.

Mr. Thompson replied that, in relation to the question of statistics, although he had himself felt how desirable it would be to avail ourselves of this method in dealing with the question of treatment, he conceived that this was not a subject which could be brought within the range of the statistical method. The condition of different patients was so diverse, and the modes of applying treatment were so varied, that it was desirable to avail ourselves of every means, and apply that which the particular case seemed to demand. He shunned nothing so much as the error of overvaluing any particular method, but wished to have the means of utilizing all. He thanked the Fellows for the kind and patient attention they had afforded him.

#### INHALATION OF OXYGEN.

Dr. MACKENZIE brought before the notice of the Society two specimens of the inhaling apparatus he had used for the administration of oxygen gas, the construction and uses of which were subsequently explained by the inventor, Mr. Barth,

Dr. EDWARD SMITH, with reference to the therapeutic action of oxygen, had no doubt that it promoted an increased tissue change, but only in a moderate degree. He entered into various physiological considerations, from which he deduced that its remedial powers must be limited ; and stated that on inhaling it in the morning, fasting, he had experienced severe headache and fulness of an uncomfortable character.

Dr. MACKENZIE remarked that he had known the same results to follow in other cases in which oxygen had been administered fasting ; but admitting the correctness of the physiological views set forward by Dr. Smith, he was yet

disposed to take a more practical view of the question, and to test the therapeutic value of oxygen by clinical inquiries. Nothing, for instance, could be more injurious than to submit the system to excessive oxygenation, as by active exercise, when fasting; and the same was true of the inhalation of oxygen. To effect any good from its employment, he submitted that there should be a strict relationship observed between the amount administered and due alimentation of the system.

Dr. Thudichum read a paper on

#### THE PATHOLOGY AND TREATMENT OF GALL-STONES.

The author introduced his subject by stating that those who engaged in post-mortem examinations of the human body had, not rarely, an opportunity afforded them of examining concretions in the gall-bladder or gall-ducts, which for several centuries had engaged the attention of the learned and roused the wonder of the curious. To either, it must be a subject of astonishment that a large number of solid hard bodies should be met with filling almost the entire cavity of a receptacle destined to hold a mild and innocuous fluid, and that yet there should have been no symptoms of their presence during the life of the individual who carried those concretions in his biliary organs. To many, however, gall-stones proved by no means mild and innocuous, but, by frequent and painful effects, only too sensibly reminded them of their existence. These painful and sometimes fatal attacks the physician was called upon to relieve, to heal, or, as the case might be, to prevent. Like the morbid anatomist, the physician had to deal with the consequences of a disease which was itself not the object of his immediate attention. Both investigators might be compared to the geologist, whose inquiry into the history of an outburst volcano had to be carried on upon the ashes, the lava, and other rocky products, and upon the large features of their conformation; it was impossible for him to observe their direct genesis—the fire that produced them was long since extinct. An inquiry into the pathology of gall-stones was mostly an inquiry into causes so remote and obscure, that the difficulties encountered in such a proceeding ranked amongst the greatest which medical science had to battle with. Accordingly, our positive knowledge of those causes amounted to very little or nothing; surmise had taken the lead, and had assigned various causes, which the author mentioned at length, but which, on a stringent scrutiny, he said, must stand aside as incompetent. Nevertheless, it was his opinion that so soon as the chemistry of the liver and bile was well understood, we should be in a position to approach the problem from both sides—during life and after death—by physiological research and experiment, as well as by the anatomical and chemical examination of the dead body.

The author then related a case, being one of several in which Mr. Holmes, of St. George's

Hospital, had kindly afforded him an opportunity of examining the liver and bile of deceased persons. The notes relative to the case had been given from the register of St. George's Hospital, by Dr. G. G. Rogers. They showed the subject to have been a married woman of sixty years of age, who was received into the hospital, under the care of Dr. Pitman, suffering from valvular disease of the heart, hæmorrhagic infarctus of both lungs, and dropsy. She had died within a week from the time of her admission.

On examining the bile in the gall-bladder, the author found it to consist of a homogeneous fluid, containing little coloring matter, in solution, but a large amount of brownish-yellow coloring matter, together with many crystals of cholesterine, were suspended in it. It was analyzed, and the result of the analysis, which was given in outline, was that it did not contain a trace of biliary acid.

The gall-stones were about sixteen in number. On dividing the largest one into halves, the author found a large nucleus of brown pulpy matter, which could be easily removed with the point of a knife, or washed away with a brisk stream of water from a so-called washbottle.—When collected in a white china dish, the matter appeared to be composed of thread-like films of different diameters, some a quarter of an inch long; some shorter pieces, were one-sixteenth of an inch in thickness. All were cylindrical as if moulded in tubes; many had branches, and others divided dichotomically. The thinnest portions had a diffuse broom-like end, as if the matter had not had time or quality to solidify in the tubular form, or as if it had solidified in a bag-like enlargement of the cylinder in which the rest of the cast was moulded. The matter composing these productions was granular, without a trace of crystallization of any kind, was purely yellow in the thinnest branches, but became darker brown the thicker the forms grew. Forty or fifty medical gentlemen, to whom the author had an opportunity of submitting both the specimens and drawings of them, had borne witness to the accuracy of the representations. All of them agreed with him that these peculiar formations could be nothing else than *casts of the biliary ducts*. They were so fragile that the mere weight of a thin glass cover, as used by microscopical preparations, was sufficient to crush the thinner ones. When shaken in the watch glasses in which the author kept them moistened with glycerine, the mere friction of one against the other would damage and disintegrate the most characteristic feature. About half the number of gall-stones, and amongst them some large-sized ones, although containing a good brown nucleus, yet did not admit of the separation of characteristic casts; but amongst the *débris* some fragments of casts could be distinguished with ease and certainty. From their extreme delicacy, and a variety of other circumstances, the author thought it a

mere chance whether such casts, once formed, should be preserved or destroyed by mixture with crystallized cholesterine, from which they could not be mechanically separated. They might hence occur more frequently in gall-stones, or otherwise, than we might be able to find them.

The material of the casts was not chemically homogeneous. A yellow portion was extracted; another portion, probably bilifulvine, remained. Some had a peculiarly ragged or variably projecting outline, which made the author examine for cylindrical epithelial cells; but however great the probability that such cells might adhere to the circumference, or enter into the body of the casts, being epithelial proper to the biliary ducts, certain it was that no such formations could be identified.

Dr. Thudichum then animadverted upon the numerous reflections suggested by this observation. He was of opinion, he said, that true bilious attacks, and cases of acute, so-called, idiopathic jaundice, might hereafter find an explanation by the discovery of a real and material obstruction of the passages of the bile by formations similar to those which he had described. After referring to a case given by Frerichs, which seemed to present a feature in point, he mentioned the branched calculi, and also the branched gall-stones found by Dufresne, in the finer ramifications of the biliary ducts, as presenting, perhaps, some analogy to the casts described.

The author then discussed at length the possible or probable circumstances which may produce gall-stones. The main cause appeared to him to be the decomposition in the gall-bladder of the solvent of cholesterine—taurocholic acid.

Having related several cases in which the author had found gall-stones in the gall-bladder or liver after death, and having recapitulated the various descriptions of gall-stones, he remarked upon the symptoms produced by these concretions during life. He concluded his remarks upon the passages of gall-stones through the biliary ducts with the statement that he had not been able to find a case on record of a person who during life suffered from well-authenticated attacks of the passages of gall-stones, and was after death found not to harbor some concretion or other in his biliary passages.

After referring to the general termination of cases of all kinds, and relating some in point from his own experience, Dr. Thudichum detailed a case which he had had an opportunity of treating for several years and watching to its conclusion, and which he considered to be an appropriate introduction to the question of treatment. The case showed that gall-stones might exist in the gall-bladder during forty years, produce recurrent attacks, and yet, with prudent living and medical assistance, the patient might attain the age of eighty. The aged patient took the celebrated mixture of turpentine and ether with so much apparent benefit, that

during four years following the last of several attacks of passing gall-stones, he allowed few days to pass without taking from half a drachm to a drachm of the mixture. After his death, the gall-stones were found very soft and pulpy, by which observation the theoretical value of the ether and turpentine mixture assumed a sort of empirical confirmation, although, on strict scrutiny, the direct solvent action of these substances could not well be understood.

For the symptomatic treatment of the passage of gall-stones, the author said we had, as heretofore, to rely mainly upon opium, which was sometimes better borne in the form of pills than in that of tincture. An overdose of this drug was to be guarded against, as severe narcotism sometimes followed large doses of opium, when the pain, which caused it to be given, suddenly subsided, from local causes. A case which had happened in Ireland some years ago, the author thought, suggested caution. Patients were, however, more apt to take excessive doses of opium on their own account than the practitioner was likely to prescribe them.

After some remarks upon the dietary and hygienic rules to be observed by gall-stone patients, the author suggested that in some appropriate cases an operation for the removal of gall-stones through the abdominal walls should become a subject of consideration for surgeons. When the cause and origin of gall-stones were a little better known, they might be prevented, and to that time he looked forward with confidence and hope.

Mr. Harrison was happy to bear out one of the statements of the author by a case of his own. He exhibited the gall-bladder of a male patient who died of pulmonary consumption, which was closely packed with numerous small and large cholesterine calculi, encrusted by some white phosphate of lime. There had been no symptoms arising from these concretion during life. He also adverted to a second case of his, which terminated fatally, in which the prolonged jaundice the ultimate death had been caused by the arrest of a single large calculus in the common duct.

Mr. Canton had found gall-stones repeatedly after death in very fat subjects, and thought there might be some connexion between the obesity and these concretions. The coincidence of the atheromatous condition of the arteries with gall-stones, as mentioned in the first case of the author, was also in accordance with his own experience. He inquired whether the author had made analyses of blood as to the quantity of cholesterine contained in it?

Dr. Richardson having alluded to the effects of the loss of the bile by a biliary fistula in animals, which he thought was contra-indicating the proposed operation, referred to points of diagnosis. He had in two cases been able to verify the diagnosis by Dr. Cockle of gall-stones in the gall-bladder, by the sound produced by these concretions when brought into sudden

contact by percussion. He also mentioned a case of his own, in which he found sixteen calculi disposed in the liver; and concluded with some interesting remarks upon the connexion of gall-stones with gout.

Mr. Gay had treated two cases in which gall-stones were discharged through the abdominal parietes by the spontaneous act of nature. They made their exit near the umbilicus. It was remarkable that in neither case were they accompanied by biliary matter, nor followed by the establishment of biliary fistulæ.

Mr. Ross had seen three cases of extreme deposit of fat, in which gall-stones were discovered after death. He thought the observation, by the author, of casts of the biliary ducts a most important discovery, and considered his paper a turning-point for future inquiries.

Dr. Here animadverted upon the common coincidence of gall stones with pulmonary phthisis, and said that excess of fat could not in these cases be any etiological consideration. The dilatations in the gall-ducts which had been mentioned in one of the author's cases, he considered to be cavities left by the softening of tubercles. They were also found in phthisis, but ordinarily only in tuberculous subjects below sixteen years of age. He did not agree with Rokitsansky as to their being enlargements of the biliary ducts, as he had never observed any communications with such ducts.

Dr. Smith inquired as to the rationale of the dietary rules laid down by the author. He combated the notion of an etiological relation between obesity and gall-stones, particularly upon the basis of his own experience in phthisis.

The President remarked upon the operation which the author had hinted at, and thought that there were many difficulties in its way. He should like to hear from physicians the number, nature, and prospects of such cases in which the operation for extracting gall-stones could be thought of. The operation would be impossible in cases where the calculus was closely embraced by the bladder. But, from his knowledge, he thought it not impossible that cases fit for operative relief might present themselves; and in cases of distended gall-bladder (which might occur with calculi), an operation such as the author had mentioned had actually been performed with success.

Dr. Thudichum, in reply, expressed his thanks for the kindness and attention which the Society had manifested. The cases and opinions brought forward by the gentlemen who took part in the discussion had been eminently interesting to all and instructive to himself. He could not reply *seriatim* to all observations, and therefore only say that, according to his statistical researches, no habit or temperament of body could be accused of favoring the production of gall-stones. The fat and the lean, the new-born infant and the octogenarian, were alike subject to the complaint. As a general rule, he thought gall-stones the sequel of an acute pro-

cess which produced insoluble coloring matter, perchance casts of the biliary ducts, upon which the cholesterine was deposited. But whether the cholesterine merely deposited upon the coloring matter as it would upon any other foreign body, or whether its precipitation was also produced by, and an essential symptom of, the first disorder, he hoped to ascertain by future observation and experiments upon animals. Cholesterine was a product of the activity of the liver, and, like all biliary matters, not preformed in the blood. But the study of the blood was nevertheless of importance, and he had himself made analysis of it in relation to the question of gall-stones.

## PATHOLOGICAL SOCIETY OF LONDON.

MR. FERGUSON, President.

Dr. Harley showed three specimens of

### INTESTINAL CONCRETIONS

which he had analyzed. Two of them were from the human subject, and the other from the stomach of the horse. The latter, which was presented to University College Museum by J. A. Blake, Esq., was an oval, slate-colored, very dense and heavy stone, somewhat larger than a duck's egg. It consisted of lime and magnesia, combined with phosphoric, and a trace of sulphuric, acids. It had for a nucleus a crooked, rusty iron nail.

The next specimen was a concretion of organic matter, measuring, when fresh, nine inches long, and six inches and a half in circumference. It was passed, after five weeks' suffering, by a gentleman aged fifty-six, a patient of Professor Quain. Dr. Harvey found it, on microscopical examination, to consist of striated muscular fibres, fibro-cellular tissue, short portions of bloodvessels, and a few hairs, the whole being bound together by a quantity of mucus and lymph.

The third specimen was passed by a woman aged twenty-five, while a patient in University College Hospital, under the care of Professor Walshe. On admission the woman said that she had been laboring under symptoms of dysentery for two months. Eight days after she entered the hospital, she passed with difficulty a very large stool, which was found to consist partly of a white, hard, brittle mass, about the size of a hen's egg. The mass, which resembled a phosphatic calculus, was streaked with blood. On analysis, Dr. Harley found that it consisted entirely of hardened starch. On inquiry, the patient stated that for some weeks before her admission into the hospital her food had principally consisted of arrowroot, sago, tapioca, and ground rice, made into puddings.

Dr. Harley remarked that intestinal concretions were comparatively rarely met with in the human subject, and that when they did occur, they generally consisted of imperfectly digested

animal or vegetable food, sometimes of a mixture of both, and that the patients were in general dyspeptic.

## OBSTETRICAL SOCIETY OF LONDON.

DR. RIGBY President.

### ON THE INDUCTION OF PREMATURE LABOR IN A CASE OF DISTORTED PELVIS.

BY J. H. TROUNDELL M.D.

In the case related the patient had had eight children: the first three labors normal, children alive; in the fourth, turning and death of the child; in the fifth, the forceps was used, and the child born dead. The author attended her in her sixth labor; the result as in the former case. In the seventh pregnancy premature labor was brought on, at the eighth month, by means of an alternate injection of hot and cold water into the vagina by the use of a powerful syringe; the result was successful. In the next pregnancy (the eighth) similar means were adopted, but this time a long flexible tube was passed into the cervix uteri, and water thus injected. In four days labor set in; the shoulder presented; the child was turned, but the cord was twisted round the neck, and the child's life was in consequence sacrificed.

Dr. Mackenzie preferred the catheter to the douche as a means of inducing premature labor.

Some discussion took place as to the general propriety of injections into the uterine cavity, in which Dr. Tanner, Dr. Druitt, Mr. Edmunds, and Dr. Barnes joined.

Dr. Graily Hewitt exhibited

### A FETUS IN WHICH THE ANTERIOR ABDOMINAL WALL WAS DEFICIENT.

The specimen was forwarded to him by Mr. Sedgwick, and from the account given of the case it appeared that the elbow presented, and during the progress of the labor the protrusion of the intestines through the aperture in the parietes of the abdomen, covered only by peritoneum, was felt by the fingers, and produced an impression that the placenta was in contact with them.

Dr. Hall Davis showed a specimen of

### OVARIAN GESTATION,

the particulars respecting which are as follows:—The patient, aged twenty-five, never previously pregnant, began to suffer in March from severe abdominal pain, and above the right pubis was found a well-defined enlargement, very tender to the touch. On the 14th of May Dr. Davis first saw her, and found a large tumor extending to the umbilicus, and occupying chiefly the left iliac region, fluctuating, and resembling an ovarian tumor. Mammary symptoms of pregnancy, somewhat undecided and of doubtful import, were present; cervix uteri high up, inclined forwards; os not having the cushiony fullness of early pregnancy; body of uterus a

little enlarged; length of cavity, three inches and a half. Behind the cervix was a soft tumor, evidently continuous with that felt above. The diagnosis on this examination was, that the tumor was of extra-uterine character, and that within the cyst were fetal contents. A canula and trocar were introduced into the tumor behind the cervix, and a quantity of fluid evacuated; but the patient refused to allow of further projected operative measures, and died on the 9th of July. The left ovary was found developed into a cyst, situated between the uterus and rectum; interior of cyst sloughy and putrescent; it contained a decayed fetus and remains of placenta, all of a dark color.

Dr. Hall Davis also exhibited a

### POLYPUS OF THE UTERUS,

about the size of an orange, which he had removed by means of the ligature and bistoury. The diseased mass protruded from the vagina, and gave rise to very considerable losses of blood and discharges.

### ON THE HYDATIDIFORM OR VESICULAR MOLE; ITS NATURE AND MODE OF ORIGIN.

BY GRAILY HEWITT, M.D., M.R.C.P.,  
PHYSICIAN TO THE BRITISH LYING-IN HOSPITAL.

Cruveilhier was the first to demonstrate conclusively the non-hydatid character of those bodies discharged from the uterus in cases of so-called hydatid pregnancy, which view of the case has been established by many observations subsequently made. Many essential points in reference to the nature and mode of origin of the hydatidiform or vesicular mole remain, however, still *sub judice*. In the present paper it was attempted to reduce the series of facts already on record into something like a system, and to offer a solution of certain questions not yet satisfactorily or clearly answered.

The author then described the particulars of a case in which a specimen of the hydatidiform mole was expelled from the uterus seven months after the birth of a first child, and during the process of lactation. The patient did not suspect her pregnant condition, but for about six weeks the milk had increased in quantity, and fulness of the lower part of the abdomen and constipation had been noticed. The ovum, expelled entire, was apparently about two months old, and, on examination, offered a most perfect and interesting specimen of commencing hydatidiform degeneration of the ovum; the circumstance that the whole came away together afforded an opportunity of examining the parts as they had lain in the uterine cavity: the decidua uterina only was very slightly torn. On cutting vertically through the whole mass, the following appearances were met with: The amniotic cavity was empty; no embryo discoverable; the chorion and amnion membranes were adherent; about half of the chorion villi (the whole of those corresponding with the decidua serotina) presented the hydatidiform change; the remain-

der were covered by the decidua reflexa, shrivelled and small. The chorion villi proceeded from the chorion membrane, in their passage towards the decidua serotina becoming enlarged at intervals into rounded bladder-like bodies, one-sixteenth to one-sixth of an inch in diameter. Microscopic examination showed these vesicular bodies to possess the same structure as that of normal chorion villi, but the cells on the surface were wider apart, and the villi distended by a serous fluid, giving rise to the enlargements. The appearances observed did not differ materially from those described by Cruveilhier, Mettenheimer, Gierse, Wedl, and others.

The point respecting which opinions have been divided is—What is the nature and cause of the change in the chorion villi, which results in the production of these hydatidiform bodies? Mettenheimer, followed by Paget, declares them to be cysts, while Gierse considers that the change consists in hypertrophy of the natural structures of the chorion villi with secondary œdema. The "cyst" view the author dissented from altogether, and considered it positively disproved by observation of the specimen and the drawings of the same produced, and by comparison of the altered villi with normal villi at about the same period of development. From this it would be seen that in the normal villi and in the altered ones we have precisely the same structures; it is not, then, necessary to have recourse to a cyst theory to account for the appearances. The cells on the surface of the villi are seen alike in the two cases; the vesicular enlargements evidently do not originate in them, and Gierse's opinion as to the essential anatomical character of the change is far nearer the truth. In fact, in the hydatidiform mole, we have not a new formation, but simply an alteration and degeneration of previously existing structures.

The next point is—What are the circumstances which determine this pathological alteration? On this subject the author differed materially from previous observers. Universally the transformation has been supposed to be the starting-point of the affection; that the disease of the chorion was the cause; the death of the embryo the effect. On the contrary, he contended that the death of the embryo occurs first, the chorionic transformation subsequently. The hydatidiform mole results from a degeneration of structures arrested in their development. Death of the embryo involves arrest of chorionic development, but not necessarily cessation of vitality in the chorion villi; these may continue to grow, and this peculiar growth, for a persistence of which it is necessary only that the decidua be not separated from the uterus, will then result in the formation of the hydatidiform mole. After attaining a certain degree of development, the chorion villi do not appear to be capable of undergoing the change in question; the conditions necessary for that change are not present, and if the foetus dies, no hydatidiform mole can be produced. The middle or end of the third

month is probably the limit within which the change can originate.

With respect to the embryo, in most cases of hydatidiform change no trace of it is detected; when found, it is always very small. The evidence on this point, then, shows that the embryo perishes at a period so early as to leave no traces behind it, or that it does not survive a period roughly to be fixed at the end of the second month. We find, then, that all known facts are quite in harmony with the theory now offered as to the cause and nature of the hydatidiform transformation.

Some remarks were then made as to the cause of the death of the embryo in such cases. The author considered that, in the case of the patient above described, and in cases like it, it was very probable that the death was due to long-sustained but slow contraction of the uterus, produced by the irritation of lactation. Such contraction would diminish the nutrition of the villi, and in the end cause the death of the embryo. As confirmatory of this opinion as to the influence of lactation in producing abortion, some observations published by Dr. Barnes were mentioned. Dr. Barnes found that, in a number of cases of abortion of non-special character, into the particulars of which he had inquired, abortion occurred in 17 per cent. of cases of conception during lactation, and in only 10 per cent. of other cases. On this subsidiary branch of the inquiry, however, only speculative opinions were put forward.

As to the interesting question of the possibility of a portion of retained placenta taking on the hydatidiform change, the following opinion was offered:—The placenta of a mature foetus cannot be so changed, but appearances giving rise to an erroneous conclusion on this point might arise—1st, in cases of double conception, one of the ova perishing at an early period, and the degenerated chorion villi remaining in the uterus after the normal birth; and, 2ndly, in the perhaps possible case of a portion of the chorion villi having changed, from accidental separation from the embryo, the remainder growing normally.

Lastly, the question, Can true hydatids be expelled from the uterus? was considered. The author was inclined to admit the possibility of this occurrence. When so expelled, the true hydatids arise, doubtless, in the uterine wall, and subsequently burst into the cavity of the uterus. A very simple examination would be sufficient to distinguish between such bodies and the hydatidiform cysts resulting from chorionic change. The fact, that in true hydatids we find cysts enclosed one within the other, and in the other case round or oval bodies attached one to another like beads, would be alone sufficient to prevent the possibility of a mistake on this point.

The several points referred to in the paper were illustrated by drawings and preparations.

Dr. Barnes observed that the subject treated in this important paper was one that could scarcely be discussed in a fitting manner without a

more accurate perception of the author's views than could be gathered from hearing the paper read. He would, therefore, not pretend to follow even the principal points mooted, but would merely advert to one or two topics which had struck him. He had seen a case of hydatiginous chorion, of about six weeks' pregnancy, passed by a lady apparently in perfect health, who had borne a healthy child before, and another subsequently, who was not suckling at the time, and in whom he did not think the expulsion was caused primarily by uterine contractions. In this case only a part of the chorion was in a state of hydatiginous degeneration; the rest presenting either the normal appearance, or various gradations of degeneration. He had observed a general tendency, in these cases, to complication with fatty degeneration. And the absence of the embryo, which was so commonly the case, was accounted for by its undergoing a process of oily transformation and dissolution, which usually proceeded to the entire disappearance of the fœtus. In one case he had witnessed this process in progress; the lower half of the embryo had melted away, whilst the upper half remained. He had taken a sketch of this embryo. Dr. Barnes was of opinion that it required further observations to establish the proposition that death of the fœtus must necessarily precede the hydatiginous change. Fatty degeneration certainly did in some cases precede the death of the fœtus; it might be that hydatiginous degeneration might also commence during the life of the embryo.

Dr. Druitt stated that the author had given a very lucid and ingenious explanation of the aberration of placental structure treated of, and he was most ready to concur with him in the position that the (so-called) cystic disease of the chorion was an exaggeration and deformity of natural structure, and was not due to the intrusion of a new element, as in the case of tumours or of hydatids. At the same time he doubted if the proof were complete that death of the fœtus was the only and essential cause. Referring to the extremely complicated nature of some of the changes in the ovum in abortion, and to the difficulty of unravelling the primary from the secondary, he expressed his belief that a kind of apoplectic engorgement of the decidual vessels was the condition which usually preceded abortion, and that the various changes of structure observed in the membranes of the ovum, such as fatty degeneration and fibrinous deposits, in portions of the placenta, were generally secondary; but yet in some cases such changes, he believed, were primary. He observed that it was an anatomical error to speak of the disappearance of any of the villi of the chorion, whether of the placental or non-placental portion of that membrane. On the contrary, the villi of the whole chorion, as he had shown some years ago, continue to grow up to the end of pregnancy, and are readily found in every mature ovum. They are particularly large around the placental portion, and in this part in the membranes at full term he had occa-

sionally found them excessively ampullated, as if in an incipient state of cystic degeneration. Hence his belief in the possibility that the cystic disease might be a primary affection, beginning before the death of the fœtus.

In reply, Dr. Graily Hewitt observed that he merely insisted on the fact that the death of the embryo preceded the chorionic change; he had only attempted to account for that death in one particular class of cases. He could not conceive that further observations would materially alter his conclusions, based as they were on attentive consideration of the data afforded on the subject at the present time. He believed that his explanation of the mode of origin of the chorionic transformation was the only one reconcilable with facts; he would request anyone sceptical on the subject to examine the drawings placed before the Society, from which it would be at once apparent that the hydatidiform bodies are merely chorion villi arrested in their growth, but which have undergone a subsequent degenerative change. There was an utter absence of proof that the alteration was anything beyond a passive one, and on his view of the case it was a necessary result of the adhesion of the ovum in the uterus, the embryo having perished.

### Editorial.

#### EFFECTS OF LOCALITY ON THE RACES OF MEN.

It was said of the ancient Romans, that wherever they conquered they settled as colonists—that is they became settlers in the land of their adoption, and, without forgetting that they were citizens of Rome, were yet prepared to defend their new country, which, after a few generations, became to them as a fatherland. It does not appear, however, that these widespread colonies, extending to the then known world, succeeded to any great extent in altering, or modifying, the character of the original races of the conquered countries. None of them ever became Roman or Italian, properly so called; the intrusive race, in fact, after a few centuries, disappeared, and the population regained its primitive type or character—a process of depuration hastened, in all probability, by the circumstance that the Italian youth alone emigrated to foreign lands, intermarrying with the races amongst whom their lot was cast. Thus the Roman or Italian race speedily became extinct in all or most of their colonies. The same had happened to the Greek and Phœnician races; and we have only to refer to Northern Africa in order to show how difficult it is, not to say impossible, for any race to transfer itself from one continent to another, and to resist, even for a few centuries, the combined influence of climate and of an admixture with the aboriginal race. In Western Africa and in India a few centuries have sufficed nearly to extinguish the Lusitanian



blood, whilst the *actualities* of Central and Southern America point to events which man could not have foretold namely, the formation of hybrid races of men of no principle, of no character, and who must soon cease to be numbered amongst the nations of the earth.

This question of acclimation, which to many may seem a merely theoretical and philosophical question, is, on the contrary, to Britain, one of the most pressing nature, and eminently practical. On its solution depends the existence of what some are pleased to call "the Colonial Empire of Britain;" and although, in fact, it is the highest abuse of terms to give to such a heterogeneous mass of dependencies, scattered over the world, the name of an empire, to which it bears not the most distant resemblance in any sense, the term may still be employed as comprehending the hundreds of rocks, islands, continents, and even sand-banks, on which the flag of mercantile and enterprising England has been unfurled. These rocks, islands, and continents, on which the inhabitants of the British isles, usually called English, have located themselves, and have attempted colonies, or, by merely enslaving the aboriginal inhabitants, have been contented with collecting, under the name of "taxation for financial purposes," the wealth of the conquered people, occur in nearly every climate, and are occupied by men of all colours, species, or varieties. Hence the difficulty in establishing a central imperial power, to be willingly obeyed by men of all races, and of maintaining, in climates so varied, armies composed of European troops, not colonists, but united to their fatherland by the ties of birth, education, language, and race. In the temperate zones, the European by birth experiences little or no difficulty in accommodating himself to the altered circumstances in which he may be placed. Our English troops, stationed for many years in North America and its dependencies, in Australia, New Zealand, and the colony of the Cape of Good Hope, not only enjoy the best health and strength, but even an almost absolute immunity from diseases by which they suffer severely in the land of their birth. Pulmonary consumption, typhus, and dysentery are almost unknown in some of these colonies, and the health-rate of the troops, although composed of men who, by intemperance and folly, bring many evils on themselves, ascends to a point it has never yet attained in any European country. It is for time to show whether or not a purely European population may ultimately enter on full possession of these lands to the exclusion of the aboriginal races; at present, the opinion\* gains ground, that after some centuries the fate of all intrusive races is to die out, whether the land of their adoption be within or without the tropics, unless their numbers be fed by continual immigration from the parent stock. But be this as it may, the question which interests Britain at the

present moment is, the maintenance of armies of Europeans in such a state of efficiency in her colonies as to render unnecessary the employment of natives, enlisted amongst the aborigines of the land thus held by military occupation? The revolt in India presents, on a gigantic scale, all the dangers of such a policy as the disciplining and arming races of men wholly and for ever antagonistic to our own; whilst the same process—namely, the calling the peaceful laborer and merchant of European descent from vocations on which all civilization ultimately rests, must as surely end in the speedy disjunction of these colonies from the mother country. Events productive of the same results, though springing from a different cause, lost to Britain the greatest colonial empire the world had ever seen—the United States of America. To hold distant countries in any kind of subjection to Britain, her armies must be composed simply of the natives of Britain, born and educated in the land of their forefathers—proud of their nationality and of their European birth and education. We cannot, with safety to England's grandeur, employ armies of New Zealanders, Australians, Tasmanians, Canadians, Africaneers—these being the names by which the descendants of English parents, born and brought up in these colonies, unhappily designate themselves; her armies must be composed of Englishmen in reality—men of different races it is true, but strongly united by the bonds of language, birth, and nationality. Now, if this view be correct, the question returns with increased urgency—How are such armies to be raised and maintained in an efficient state in all climates, without causing such a drain on the mother country as to exhaust the vitality of the nation?

This question may be readily solved as regards the extra-tropical colonies generally. European troops located in such countries enjoy the best health; nay, what is more, troops employed in the deadly climates of tropical countries, when removed to such colonies as Australia and the Cape, recover their health and strength in a surprisingly short time. Why not first transfer regiments, enfeebled and utterly exhausted by a long residence in India, to such climates as the Cape and Australia, rather than to cold and bleak Scotland and Ireland? Why transfer a regiment which has been long in India, and suffered much, to the climate of the Grampians, to pass the first winter of their return to Europe amidst the snows of Caledonia, in the cold and comfortless station of Fort George? Why not move them to the Cape, New Zealand, or Australia? In truth, the maintenance of European armies in tropical climates is mainly a question of transport and transference from a deadly climate to another extremely healthy, and the vast extent and variety as to climate of our colonies, and the power of our marine, furnish the means for meeting the difficulty. The troops best calculated to encounter a campaign or two in a tropical country are those proceeding directly from Eu-

\* First discussed by Dr. Knox, in his work "On the Races of Men."

rope, and who carry with them all the vitality of their northern native constitutions. It is quite a mistake to suppose, that by accustoming them to a climate hotter than England, but less so than India, they may gradually become acclimatized and strengthened, so as to bear an increase in temperature with less suffering than troops directly from Europe. It is only certain constitutions (the consumptive and the exhausted by a residence in a tropical country) which improve for a time by a removal to the Cape or Australia; a lengthened sojourn even here is not in favor of European troops. Armies are ever healthiest when on the move—an observation which is true in more senses than one; and on this theory, supported as it is by innumerable facts, we ground our belief in the possibility of maintaining the armies of England in a healthy condition all over the world, simply by judicious and well-timed frequent transference from one climate to another. There are, no doubt, some colonies belonging to Britain, the climates of which seem to be of so deadly a nature as to be surely, and under all circumstances, destructive of European life; we allude to the western coast of Africa. Yet even of this dreadful climate an amiable and much-respected medical practitioner asserted a few years ago that the climate was in no respect worse than that of England! Dr. Winterbottom's work was written, it is true, before the invention or application of the statistic or numerical method of inquiry. At that time medical men wrote from their impressions, and without regard to numbers. Colonel Tulloch had not then composed his celebrated inquiries into the health of the British armies throughout the world, and, as men kept no records of their own experiences, and despised the experience of others, the world, it must be confessed, moved in very narrow circles, and progress was impossible. All is changed now; at least we hope so. The *Great Eastern* is afloat, and with a few such vessels let us trust to hear no more of regiments returning to England mere skeletons, after a servitude of seventeen years in India. What a *system*! Is this *system* to go on? Are we to have another expedition to China on the model of the Crimean? If any reasonable fears be entertained on this head—and numerous precedents warrant the reasonableness of such apprehensions—then the nation cannot too soon insist on the formation of a *Conseil de Sante des Armees*, to see to the due administration of a portion of the twelve millions sterling which the country has voted for the maintenance of the power and dignity of England at home and abroad.

#### THE ARCTIC EXPEDITION AND ITS RESULTS.

That there was a "Franklin Expedition" sent off from these shores, perhaps a dozen years back, to endeavor to discover a "Northwest passage;" that we long anxiously expected to hear, first of its success, next of its safety, and lastly

to obtain some record of its peculiar fate; and that, within the last few days, probably all that we shall ever know of its eventful story has been placed in our hands,—are facts well impressed, no doubt, upon the mind of nearly every inhabitant of this "sea-girt isle." But so important and interesting an event as even the most meagre narrative of a lost Franklin Expedition must be, merits something more definite to fall back upon, than the misty recollection of the one or two generalities to which we have alluded. We purpose, therefore, to recall a few of the leading facts connected with its history—a duty which, as members of the same profession as includes Sir John Richardson, Dr. Armstrong, and Dr. King, (three well known Arctic voyagers,) we conceive to be legitimately within our province.

In 1819, Lieutenant Parry, in his first voyage for the discovery of a North-west passage, crossed the meridian of  $110^{\circ}$  W. long. from Greenwich, by which the Arctic expedition under his command became entitled to the sum of £5000 for penetrating so far to the westward. Parry by this established the great fact that a North-west passage certainly existed up to  $110^{\circ}$  West long., thus leaving an uninvestigated tract of only about 300 leagues between Melville Island and Behring's Straits. Could this space be traversed, an entire continuity of water between the Atlantic and Pacific Oceans would be proved: as it was, however, this problem remained unsolved, notwithstanding the explorations of Clavering, Back, Lyon, Beechey, Ross, and Parry, on the sea, and of Franklin, Back, Simpson, and Dease, upon land. But it must be remembered that though the objects of all these travellers were Arctic research and the discovery of the North-west passage, none of them endeavored to push further upon the track of Parry's first voyage, or to penetrate the openings near Melville Island. Now it was this circumstance in particular, together with the failure of discovering a passage in any other way, that prompted Sir John Barrow to ask the Council of the Royal Society to urge the Admiralty to commission another voyage of Polar discovery, bearing specially in view the course and results of Parry's first attempt. Accordingly, upon the 19th of May, 1845, the *Erebus* and *Terror*, with 137 persons, under the command of Sir John Franklin, left England, with the following instructions: To proceed up Lancaster Sound with as little delay as possible; to pass through Barrow's Straits, not stopping to examine any openings to the southward or northward, until he reached the longitude of  $98^{\circ}$  W. From that point he was directed to use every effort to pass to the southward or westward, in a course as direct towards Behring's Straits as the position and extent of the ice, or the existence of land then unknown, might permit. Should all this, however, be found to be impracticable, other courses, as also considerable discretionary power, were left to the commander.

The *Erebus* and *Terror* arrived at the Whale Fish Island on the 4th of July, 1845, and Capt. Dannet, of the *Prince of Wales* (whaler) spoke them in Melville Bay (77° 48' N. lat., 66° 13' W. lon.) "all well and in good spirits." Two years passed away, and nothing was heard of the Franklin Expedition. Dr. King, of Back's expedition, then addressed the Government, through Earl Grey, as follows:

"My Lord,—One hundred and thirty-eight men are at this moment in imminent danger of perishing from famine," &c., &c.

The Assistant-Secretary of the Royal Society thus replied in the *Athenæum* to the assertion:

"There does not exist at the present moment more reason for apprehension than there was when the expedition sailed. The not having heard from Sir John Franklin is to be looked upon more as an *earnest of success* than of failure. . . . It is clear from the foregoing that there are no grounds whatever for the assertion that 'one hundred and twenty-six men are in imminent danger of perishing from famine.'"

We now know, that before Mr. Weld had penned his answer, Sir J. Franklin had already died; that for nine months previously the two discovery ships had been immovably fixed in the ice; and that the crews were forced to abandon them on the 22d of April, 1848, nine officers and fifteen men having then ceased to exist. But another year having passed, and not anything having been heard of the *Erebus* and *Terror*, Government no longer thought, with Mr. Weld, that such silence was "more an earnest of success than of failure." On the 12th of May, 1848, the first relief expedition in search of Franklin left England, since which time up to the middle of the year 1855—more than ten years since the departure of Franklin's expedition—the several reliefs which had been attempted were, so far as their primary intentions were concerned, total failures. In 1850, however, traces of the expedition were met with by Captains Ommaney, Cator, Penny, and De Haven, and which went to show that the cove between Cape Riley and Beechey Island, facing Lancaster Sound, was the first winter station of the missing vessels. Three graves were, amongst other things, found, bearing respectively the names of W. Braine and J. Hartnell, of the *Erebus*, and John Torrington, of the *Terror*, the date of the latest death being the 3d of April, 1846. It was from a Minnesotan paper of December 12th, 1855, that the scientific world was gratified by learning some more important news of the Arctic voyagers. We were informed that Messrs. Stewart and Anderson, having been directed by the Hudson's Bay Company to make further exploration, the result had been to some extent successful. To quote the *Montreal Herald* of Dec. 24th, 1855:

"The *Erebus* and *Terror*, it is presumed, tried several passages, but were baffled by the ice,

and finally, in 1848, were crushed, probably in Victoria Straits. Many of the men perished, but one or more boats got off with the survivors, who took all the stores they could collect, and traveled southward towards the Arctic coast, in the hope of reaching some of the Hudson's Bay Company's ports. The season of 1849 was probably spent on this dreary journey, which was renewed in 1850, when they reached the coast at the mouth of the Fish River, but in so exhausted a state that they could merely run their boat on the beach, and crawl ashore to die."

According to the Esquimaux, they arrived at the above locality just in time to see the last man die, who was leaning against some object when they saw him. He was too far gone to be saved. The wolves were very thick there, and no traces of the bones of the other two could be seen, and who were supposed to have been eaten by these animals. The Esquimaux, from whom this information was obtained, were charged with killing our lost countrymen. They merely answered with their sighs, and pressing their fingers into their cheeks, and placing their hands upon their stomachs, endeavored to indicate their supposed death from starvation.

To investigate these views, and to glean further exact and detailed information, Captain M'Clintock, in 1857 and 1858, was commissioned by Lady Franklin to proceed in the *Fox* steam-yacht, "to clear away the mystery that shrouds the fate of her husband and his crews, and possibly to rescue from their insulated, icy abode amongst the Esquimaux some of his younger companions who might still be prolonging a dreary existence." This officer, as the world knows, has just returned from his investigation, and been the means of clearing up the history of the *Erebus* and *Terror*, so far as we shall in probability ever know it. The general truths of Messrs. Stewart and Anderson's account have been confirmed. At Point Victory, upon the north-west coast of King William's Island, a record has been found, in a small tin case lying among some loose stones which had fallen from the top of a "cairn," bearing date the 25th of April, 1848, and signed by Captains Crozier and Fitzjames. The substance of this record is briefly as follows:—

"This cairn was built by the Franklin Expedition upon the assumed site of James Ross's Pillar, which had not been found. The *Erebus* and *Terror* spent their first winter at Beechey Island; and after having ascended Wellington Channel to lat. 77° N., and returned by the west side of Cornwallis Island, on the 12th of September, 1846, they were beset in lat. 70° 05' N., and long. 98° 23' W. Sir J. Franklin died on the 11th of June, 1847. On the 22d of April, 1848, the ships were abandoned, five leagues to the NNW. of Pt. Victory, and the survivors, 105 in number, landed here under the command of Captain Crozier."

Numerous relics have also been found, and

other information gleaned from the accounts of the Esquimaux. From these and Messrs. Stewart and Anderson's records we may fairly assume, that the crews, having abandoned the ships, and leaving every article that could be dispensed with—stores and clothing of all kinds—made for the Great Fish River; that in so doing, "many of the white men dropped by the way"—"they dropped as they walked along;" that, before abandoning the ships, "it is much to be apprehended that disease had greatly reduced the strength of all on board"—far more, perhaps, than they themselves were aware of, though some of them afterwards proceeded 250 miles. "One man died on Montreal Island, and the balance of the party wandered on the beach of the mainland opposite, until, worn out by fatigue and starvation, they one by one laid themselves down and died." A boat was found, containing two skeletons, along with abundance of ammunition, thirty or forty pounds of chocolate, and some tea and tobacco; nor was fuel wanting, for a drift tree lay within 100 yards of the boat, against the side of which two double-barrelled guns, loaded and cocked, stood upright, precisely as they had been placed *eleven years before!*

Such are some of the main facts in the history of the Franklin Expedition. Medically, it is particularly interesting and tends to support an opinion maintained exactly ten years ago by Dr. Willshire in the pages of a contemporary journal, when discussing the probable fate of Sir John Franklin. He there affirmed his belief that, in spite of no marked deficiency of ordinary "Polar stores" and fuel, a second winter having been passed on the ice, a slow but sure diminution of vital energy and power would be visible in those who had passed it; that this diminution, though tardy and very gradual at first, would be likely to progress in an increased ratio, both as regards rapidity and power, in relation to the time of further detention in the Arctic regions. He asserted also,

"That such deterioration of health and power is not at first easily perceptible to those who suffer it, is a probable conclusion, seeing that—speaking generally—all suffer it alike, and thus have no standard to try their physiological powers by. But were it possible that a few could during the whole time maintain the maximum of the powers they took with them to those regions of eternal snow—

\* Where frost  
Reigns overlastingly, and ice and snow  
Thaw not, but gather"—

and by it weekly measure the energies of their companions, once gifted with their own high standard, we doubt not that they would discover that Polar wintering has a malignant influence upon the vital powers of the British seaman."

These views have since been fully substantiated also by Mr. M'Dougall, of the *Resolute*, who, alluding to the crew of the *Investigator*, and the means of support they had at the Bay

of Mercy, where they abandoned their vessel, remarks:—

"The above facts, in my opinion, tend to prove that, even amidst comparative plenty, the approach of a third season brings with it a depression of spirits which few minds are strong enough to bear up against; more especially when scurvy, one of the most dreadful diseases peculiar to seamen, (and God knows they are subject to many!) appears amongst them. The blood becomes stagnant, teeth loosened, gums and palate black and sore, flesh softened; all animation ceases; and with the sun, as he sinks below the horizon, leaving the dark and gloomy night of three months' duration to usurp his throne, the last ray of hope departs."

Whilst concurring in this opinion thus strongly sustained by facts, we are of course fully aware that men who have passed only one or two winters at the North, rapidly recover, upon their homeward voyage, to a fair standard of health.

We may again refer to the remarkable confirmation of much of Dr. King's assertion (which he so vainly urged upon the Government), viz.:—

"If Victoria Land should prove the resting-place of the *Erebus* and *Terror*, it will not be that of the Expedition. If the party have kept together they will take to their boats and make for the Western Land of North Somerset, for the double purpose of reaching Barrow Strait in search of whalers, and the Great Fish River Estuary for provisions or better conveyance to the Copper Indians, with whom the Esquimaux are now in friendly relation."

The deplorable result of the Franklin Expedition business is a grave rebuke to official conceit and insolence.

As early as 1836, Dr. King, who had been the physician to the expedition and companion of Sir George Back in 1833–35, pointed out the course which a future expedition should pursue in the attempt to discover a North-west passage, with a sagacity which has been verified by subsequent discoveries. In 1845, he offered his services to the Government to go overland by the Great Fish River to North Somerset, for the purpose of aiding the sea-expedition under Franklin. In June, 1847, he reiterated his offer, and twice subsequently in the same year, thrice in 1848, and again in 1850 and 1856. As it now singularly turns out, Sir John Franklin had died on the day before the first letter of Dr. King to Earl Grey was written, (June 10th, 1847),—a death from which it is possible he might have been rescued had the prior offer of Dr. King been accepted. Melancholy is the reflection that the country may have lost some of its boldest and most indomitable sons on the bleak and desolate shores of the Arctic regions from official apathy and the neglect of the advice and courageous offers of an experienced Arctic traveller. But the fact adds one more

brilliant instance, in Dr. King's person, of the determined philanthropy and heroic devotion to the cause of humanity to be found in the ranks of our profession.

Some persons still entertain the opinion that it is not yet too late to repair a portion of the evil inflicted by indifference to the welfare of many of the best spirits to which England has given birth. There are those who think that, even now, some survivors of the Franklin Expedition may exist near the banks of the Great Fish River. On the 14th of February, 1857, Captain Sherard Osborn forwarded to *The Times* an extract from a letter addressed to him from the Red River Settlement, by a person whose name he omits to state, to the effect that an express was on its road to Sir George Simpson with information that the Indians had seen two or more encampments of white men on an island near some point where Messrs. Anderson and Stewart (the leaders of the searching party sent by the Hudson's Bay Company in 1855) had turned back; and that one of these encampments was quite fresh, and had probably contained ten or twelve men. With reference to this information, in the same month, Dr. King memorialized the Lords Commissioners of the Admiralty that there was a reasonable probability that these Englishmen were wandering about in an apparently hopeless attempt to escape from the frozen shores of the Polar Sea; and the question arises whether these men, sent by Her Majesty's Government on the service of the Crown, are to be suffered to perish without an effort being made to restore them to their native country, or, if they should be dead, to obtain the history of their fate. On the chance of this event, it is, we conceive, only a national duty that an *overland* expedition should be despatched to discover, and, if possible, bring back to us, those who have ventured their lives for a great national object. Should such an expedition be appointed, the advice and personal aid of such a man as Dr. King would be invaluable.

#### THE INTRODUCTORY LECTURES.

Abstracts of all the Introductory Lectures delivered in the metropolis at the commencement of the Medical Session will be found in our columns. It was scarcely to be expected that these addresses should contain anything unusual or striking. On subjects so repeatedly discussed, it is marvellous that so much really valuable material should year by year be presented to the student. It is rare, indeed, that we have the opportunity, on such occasions, of recording the thoughts and inspirations of a master-mind; but it must be acknowledged that in every instance the addresses of the present year have been characterized by good sense, and by a thorough appreciation of the duties and the necessities of the medical student. It is gratifying to observe that, however the dif-

ferent lecturers may have enlarged upon the importance of the various branches of study with which they were more intimately connected, they have all insisted upon the paramount importance of dissection, and a knowledge of disease obtained at the bed-side. When *THE LANCET* commenced its career, not a single course of clinical lectures had ever been delivered in the hospitals of London; in fact, there was no such thing as clinical instruction in this metropolis. How different is the state of things now! A free press, acting on public opinion, has not been the least important agent in working this most salutary change.

The student must ever bear in mind that his future success in life will depend mainly upon his own exertions. Whether the hospital with which he is connected be large or small, it will furnish him with sufficient material to obtain a competent knowledge of his profession. Splendid museums, and beds in which disease is exhibited, counted by hundreds, are not the essentials to his success. Scarpa had but fifteen beds in his clinical hospital; he was no less successful as a teacher of surgery on that account. The accurate and diligent study of even one case will afford more practical instruction to the student than a cursory glance at a hundred in his "walk," or rather "run," through the hospital. We earnestly inculcate the necessity of note-taking both in the lecture-room and at the bed-side. The most successful practitioners have been assiduous note-takers. Many a judge has obtained his position on the bench from his assiduity in taking notes when he was a briefless barrister. Notes made at the bed-side of the sick afford a fund of information which is never exhausted. They will assist the practitioner on many occasions when other sources of knowledge fail.

#### TRIAL FOR FRAUD.

Another trial for fraud on the Medical Register is reported in the present *LANCET*. A person named John Broatch, practising near Dumfries, pretended to be possessed of the licence of the Royal College of Surgeons of Edinburgh, and not only swore to its possession before a county magistrate, but inveigled a medical practitioner, who had never seen the diploma, to attest that he (Broatch) was possessed of one. According to a practice adopted in Scotland, with the intention of securing the Register against fraud, such an attestation is required from applicants when they send to register themselves; but in his evidence, as published, Dr. M'Culloch is made to say that "not one medical man in Dumfries showed his diploma when he got his certificate signed." Well might Dr. Robertson, the Registrar for Scotland, remark of the Register, that "the book is merely evidence of registration, not of qualification."

The necessity for a clear and trustworthy attestation of identity and of the possession of a qualification previous to registration was always

strongly insisted on by the Medical Registration Association, and the deputation from them who waited on the Medical Council in August last were gratified at learning that a course similar to that which they had recommended was pursued in the sister country, although not in England. But it would seem that the attestation is no more than a delusion and a snare, and that the Register itself is a mere bundle of waste paper, if men can be found to swear falsely, and attest ignorantly, that such documents exist.

#### MEDICAL TRIAL AT LIVERPOOL.

The case tried at Liverpool—of which a full report appears in the *LANCET*—has, we do not doubt, been carefully pondered over by the majority of our readers—men accustomed by constant training to recognise the true bearings of things, and at once seize the points of importance. Mr. Hallows, whose only legal qualification is a licence of the Apothecaries' Company, obtained thirty-seven years ago, and who keeps a druggist's shop at West Derby, wrote "surgeon" over his door, and served bottles of medicine with the word "surgeon" on the labels.

Now, whether legal quibbling there may be as to any exact definition of the duties and functions of a surgeon, there can be no moral doubt that he only is entitled to call himself by that name who holds a diploma which certifies his proficiency in the science of surgery. Mr. Hallows possessed no such guarantee; therefore a neighboring practitioner caused a summons to be issued against him, because he styled himself that which he was not. There was such abundant proof as to the correctness of this accusation, that we can only characterize the attempt at defence as an unwise and ill-advised proceeding, neither creditable to the *esprit de corps* of the accused, nor likely to increase the confidence of clients in the judgment of the solicitor who appeared on his behalf. We cannot tell whether this person knew anything about the recent Medical Act, since he was continually trying back to some obsolete statute of the time of Henry VIII., or whether he had obtained such intimate acquaintance with law, that familiarity, in accordance with the old adage, had bred contempt. But we trust that when gentlemen of the legal profession conduct future cases of this nature, they may be better conversant with the decencies of life than to employ such coarse personalities as were unnecessarily introduced into this case. Snowball was the solicitor's name, and this the sort of defence he thought it consistent with the professional character of of his client to set up on his behalf:—

"He did not understand what the feelings of medical men were, but he did understand what the feelings of most people were; and he thought that they would feel ashamed and disgraced to take, as it were, the bread out of the mouth of an old man, who had followed legally his prac-

tice with some success for many years. The present was a most disgusting case, even supposing that in point of law Mr. Hallows was wrong; but he contended that he was not, and that the ignorance and malignity manifested in the getting up of the case must fail, and the plaintiff would have to go back to his home, very likely to be hissed and hooted at by most of his neighbors."

The case was admirably summed up by the Chairman of the Court, in a lucid and common-sense manner, rare enough amongst county magistrates; and the defendant was fined a small penalty.

Whatever be the value of this case as a precedent in law, its professional meaning admits of no dispute. It would have been better for his own interests had the defendant withdrawn the title wrongly used, without attempting to defend his assumption of it. As a member of an honorable profession, it was especially his duty to do so at this time, when it is expedient that every member of our body encourage, as far as in him lies, that cordial unanimity hitherto evinced in endeavoring to carry out, honestly and fairly, the provisions of the new Medical Act. It is only by such unanimity—by such wise use of what we have, that we may hope to obtain further concessions of what we want. It was the absence of this unanimity, of this working together for one good purpose, which so long delayed our obtaining that imperfect charter of our rights which we possess in the new Medical Act. It is by the new born unanimity, of which the Medical Registration Associations afford such excellent examples, that this Act is being made of practical use to purify the profession, and render it worthy of its high mission in the sight of the world. And it is by unanimity alone that we can hope to obtain recognition in the State, and authority to practically enforce, for the benefit of the public, the great truths of sanitary science. To us indeed, "*le présent est plein de l'avenir, et chargé du passé.*"

However important this case may eventually prove as a received exposition of the meaning of the 40th section of the Medical Act, there is one regret which all must feel in perusing its details. No personal accusation of this nature can be made without engendering a certain amount of personal ill-will. If lawyers at all fairly represent their clients, the mutual hatred existing between prosecutors and defendants must be enough to make the angels weep. And although we should be very unwilling to accept as truths the assertions that roll off hired tongues, we believe it would be far better to avoid, as far as possible, prosecutions under the Medical Act by individual members of the profession. By extending the number of Medical Registration Associations, and by an organized system of working amongst these societies when established, this end may be readily accomplished, and far greater terror would be inspired amongst the herd of quacks. To crush out these impostors is the first object

towards which the powers conferred by the new Act should be directed. When this is accomplished,—but not till then,—it will be expedient to call to account those who, within our ranks, have unfairly used the trust confided to them, and forgotten that the state of life to which they are called has its duties as well as its privileges.

### YELLOW FEVER AND CHOLERA

The public have lately been placed in possession (in the form of a "Blue Book") of the Report to the General Board of Health, by Dr. Robert D. Lyons, upon the "Pathology, Therapeutics, and General Etiology of the Epidemic of Yellow Fever which prevailed at Lisbon during the latter half of the year 1857." It is true that this is a plague from which we are free, and there are certain climatorial reasons why we shall be ever likely to remain so. Nevertheless, it should be remembered that we have had this disease imported, during a hot summer, by some of the West Indian steamers, and remain at Southampton for some few days during very sultry weather. There is no absolute reason, then, why circumstances of a special character might not unfortunately be coincident, so as to permit of this dreadful pestilence playing some havoc in a particular spot, at least for a *short time*. So far as our present knowledge extends, we are entitled to assume that we are here devoid of those physical antecedents which may initiate or propagate a plague of yellow fever. Though the area of the earth's surface which this disease embraces is considerable, we fortunately do not lie within it. In its fullest longitudinal extension, it stretches from about the 97th degree of west longitude to the 2nd degree east of Greenwich, whilst in latitude it extends to 22 or 23 degrees south, and to 42 degrees north. Its frequency and severity of recurrence within this range vary very much in different localities.—But it is clear that we have had something to learn with regard to the climatorial restrictions of yellow fever, and this very lately; for Deputy Inspector Lawson has just shown\* us that the general belief that the disease can neither be generated nor propagated at an elevation within its zone of over 3000 feet above the sea is entirely erroneous. In the latter part of 1856, there occurred an outbreak of this scourge amongst the troops at Newcastle, in Jamaica, where the plateau upon which the mess-room stands is 4050 feet higher than the sea level.—The subject of the Report before us, then, is not entirely to be discarded from the minds of the profession here as a disease the climatorial range of which is entirely within our knowledge. Lisbon (38° 40' N., 9° 8' W.) has been several times within the last four or five centuries attacked by yellow fever; and in 1857, the disease continued from September to December, attacking more than 16,000, and destroying 5500

persons, at a maximum mortality of 119 in one day. That city is hot and dirty, and presents some of the more important elements of causation which operate so unfavorably within the yellow fever zone. The Report informs us that

"All parts of the city largely attacked by the epidemic present in common certain conditions of insalubrity, which may be classed as follows:—A. Defective water supply; B. Total absence of, or more commonly extremely deficient, sewerage; C. Total absence or incompleteness of house drains, privies, and a consequently unclean state of the streets; D. Badly-constructed dwellings, with deficiency of light and air, and want of thorough ventilation; F. Absence or defective condition of tertiary and secondary sewers," &c.

In fine, we here see the very same predisponents as those which are everywhere patent to us when cholera ravages our own island. A marked peculiarity of the inhabitants of "fair Lisboa" is their disposition to offer every advantage to those prosecuting what Dr. Lyons designates as "koprolological studies."

"The incorrigible habits of the population, who seem to have never known, or to have completely forgotten, the privacy, delicacy, and retirement almost universally observed in satisfying the calls of nature, have led to the conversion of the streets, lanes, alleys in whole quarters of the city... into the common receptacles for the human dejections, vegetable and animal garbage, and offal of all kinds of large masses of the population... It may be remarked here, that the koprolological studies thus forced on the eye of the observer in so many and such opposite quarters of the city, lead to the conclusion, as already stated, that a confined habit of body has become a constitutional state with a large proportion of the population, both male and female, young and old. Medical testimony unanimously bears out the observation, and it is likewise stated on reliable authority, that the presence of hæmorrhoids is extremely common amongst all classes of the people."

The Lisboaites must certainly mend their manners—

"A chiel's amang ye takin' notes;  
And faith he'll prent it."

Some reform, it seems from what follows, has commenced; but we must say with *Hamlet* to the players, "Oh! reform it altogether."

"The *Agoa vay* system, so called from the caution to passers-by shouted from the windows, in the nightly process of throwing into the streets the contents of certain domestic utensils, is now confined to the back streets and quarters."

No wonder Lisbon has the *yellow fever*! According to the Report, though the freest communication was kept up, even during the height of the epidemic, between Lisbon and Cintra, and many other favorite places of resort to which the citizens retired in great numbers, no cases can be adduced to show that the disease spread, or

\* British and Foreign Medico Chirurgical Review, Oct. 1859, p. 445.



was carried by contagion or otherwise from Lisbon to such localities. The fever was not propagated beyond the walls of Lisbon. Evidence is also given to prove that it was not imported from the Brazils nor from anywhere else, but originated in the city, as did the yellow fever of Oporto in 1856.

The study of this Report of a late plague at Lisbon is particularly worthy of attention just now, as it may serve to put us upon our guard respecting our own dirty house in case that unwelcome visitant, the cholera, which, according to many reports, is playing havoc across the Channel, should chance to visit us. In July last it was at Hamburgh, in September it appeared at Cologne, and at the commencement of the present month it broke out at Bruges. Here is a steady westward progress, which may well make us reflect. Concerning the latter place, we are told that—

“Owing to the unprecedented drought and heat of the summer months, the canals which traverse Bruges in every direction became stagnant. Their waters were covered with oozy slime, and the mud they so plentifully contain emitted the most foetid exhalations. The back streets and courts are filthy and foul, there being not a few, into which—on the authority of a local journal—‘everything is thrown’ to fester and to rot. Towards the beginning of last month warnings were given of the presence of the cholera, which has since progressed with alarming strides. The ordinary mortality of the town is two or three daily; but for some time past it has averaged from 20 to 30, and we learn from official authority that it reached the unprecedented number of 40, or at the rate of 280 a week. The population of Bruges consists of 50,000 souls, so that having regard to the difference of numbers, this is equal to a mortality in London of 15,000 to 16,900 weekly.”

Now, for the time being, Bruges became a lesser Lisbon; the latter, lying within the limits of the climatorial predisponents of a special disease,—yellow fever,—paid the penalty of its dirt and filthiness in having to offer up more than five thousand of its people at the shrine of the devouring monster; and the former, though it must escape the particular weapon of chastisement inflicted upon the other, is equally punished by another ever ready and at hand, in these latter years, for all countries that are neglectful of sanitary precautions.

### Medical Annotations.

“Ne quid nimis”

#### DIPHTHERIA IN AUSTRALIA.

In the *Inquirer and Commercial News* of West Australia for July 6th, Dr. Rennie has propounded certain views, at considerable length, on the subject of Diphtherite—an epi-

demic which has fallen so severely on this and other countries that its advent is naturally viewed with alarm in our colonies. All European experience has led to one conclusion—viz., that leeching, blistering, and the like, are not only valueless as means of cure, but dangerous as instruments of death, in the treatment of diphtheria. This doctrine, which sad experience has forced upon all medical practitioners in England, France, and Germany alike, Dr. Rennie repudiates. He maintains the theory of diphtheria as a blood disease requiring issues from the body, and draws from this a recommendation, and advocates the employment, of blisters on that ground. He quotes the following passage from the report of Mr. Ernest Hart on the English epidemics:—

*“Cutaneous diphtheria was never developed except when the epidermis was raised or removed, and the skin thereby approximated to the condition of a mucous membrane.”* Thus, in the progress of an epidemic, leech-bites, blisters, fissures of the breast, excoriations of the scalp, of the nose, and other various wounds, might become the seat of diphtheritic inflammation.”

From this passage, intended to discourage such applications, Dr. Rennie draws a precisely opposite conclusion:—

“How clear, therefore, it is that whatever disorganizes the skin, and approximates it in texture to the tissue of the body that the diphtheritic poison has a natural elective affinity for, will lead to an artificial one being there established; and it appears to me singular that the teachings of nature in this respect should have been so long unrecognized in scientific practice. . . . In cases that promise to be severe, it seems to me doubtful that we should be justified in incurring the delay necessary to produce a blistered surface by the ordinary fly blister, but that we should rather adopt some more immediate means of disorganizing the skin: such, for instance, as by placing a piece of lint, saturated with aqua ammoniæ, covered over with a wine-glass, upon the skin we wish to counter-irritate, through which, in the course of between five and ten minutes, a blister will be produced, and which system of vesication can, of course, be carried to such extent of surface as we may wish to disorganize. Should the symptoms not be very urgent, possibly the application of a few leeches to any convenient portion of the body (with the exception of the throat or neck) might act as a good derivative, while the ordinary fly blister was rising; and the leech-bites, by becoming the seat of diphtheritic action, would be as an additional means of saving the throat from further mischief.”

When it is remembered that such treatment would be universally regarded in Europe as absolute malpractice, and that Trousseau warns us against it by a reference to the practice of the physician at Chapelle Veroux, who lost, in this way, as many patients as he had cases under

his care, we think that the inconvenience of presenting, *ex cathedra*, statements of this nature to an undiscerning public is very palpably egregious. In a medical periodical Dr. Renzie's views might be propounded with advantage. Opposition to received opinions is commonly useful, since it reopens discussion; but pronounced authoritatively, as from the staff-surgeon and principal medical officer of Fremantle, it is to be feared that the dogmas to which we have referred may have a dangerous influence.

#### PRO AND CON.

There are some investigations which appear only to end in mystification, and some conclusions which seem to be connected with the starting-point of inquiry by a merely circular line. Such an investigation cannot be said to be satisfactory when grave questions are at issue which admit of complete solution, or when a reputation is assailed, and the grounds of the charge can, and should be, fairly and fully ascertained. The *Durham Chronicle*, of September 23rd, contains a report of an inquest on a pitman, James Lemmock, who died subsequently to fracture of the pelvis. The circumstances have excited a great deal of local indignation, and deserve a little comment.

The unfortunate man was crushed beneath an enormous weight of material falling on him, in great measure apparently through his own neglect. He was severely injured, and was attended by Mr. Jepson, and Mr. Macneally, his assistant. No evidence at all was produced as to the medical treatment during the lapse of a month; but at the end of this month the patient was brought to the County Hospital, suffering from tumour in the perinæum, and perineal fistula, with extravasation of urine. He died; and the post-mortem examination was made by Mr. Shaw, surgeon to the hospital, who found "a laceration in the urethra, about an inch and a quarter in length. This opening was in the side, and was what we call, in common parlance, a slit." Moreover, the periosteum was denuded from the tuberosity of the ischium, and its ascending ramus was fractured on the right side; while the horizontal ramus of the pubes was broken through on the other side. Severe as were these injuries, and commonly fatal, Mr. Shaw thought himself justified in stating to the jury, in the absence of those who had attended the deceased during the first month of his illness, that death was to be attributed to the neglect of his medical attendants; that "the cause of death was infiltration of urine; and that the infiltration of urine would have been prevented if the catheter had been introduced earlier." These seem to be very strong assertions. That a catheter should have at once been introduced appears to follow of necessity from the account of the injuries which Mr. Shaw found; but it appears superfluous to suggest any other cause of death when the impact of an enormous weight of material had so seriously injured the deces-

ed as to crush the pelvis, fracturing it in two places, stripping the periosteum, and rupturing the urethra. Nor can any surgeon, we think, affirm with authority that any amount of care in introducing the catheter would ensure recovery from injuries so commonly found to be fatal in their result. It does not clearly appear whether this be also the opinion formed by the jury; but the verdict is entirely opposed to the tenor of Mr. Shaw's evidence, he being the only medical witness examined except Mr. Pyle, his house-surgeon. They decided that James Lemmock came to his death by his own neglect. This does not leave matters in a very satisfactory state. Mr. Jepson remains under an imputation which he has not attempted to remove; and the jury have formed their opinion without having any testimony as to the course pursued during the month which followed the accident. It is greatly to be regretted that his evidence was not called for, as without it no conclusion could be obtained satisfactory to the public mind, or exculpatory of the surgeon; while, on the other hand, in its absence, very injurious statements are admitted, such as are painful to the profession and prejudicial to the individual assailed.

#### THE MAD-STONE.

Truth is grandest in the daylight. Error is only imposing amid mysterious shade. Truth loses half its glory when only dimly seen through a vague cloud; just as the beaming sun viewed through a fog, and defrauded of his rays, looks "like a dull orange or a red billiard ball." Error shrouded in a veil of mystery assumes a false nobility, and attracts the credulous multitude. The same muddy sediment lies at the bottom of half the follies and quackeries that trick wise men, and become the faith of the foolish. Ignorant imagination invests the meanest object with the highest powers; and a slight mummery often suffices to cheat the willing senses, and give life and color to the mere skeleton of illusion. How else to account for this foolish tale, credibly related, authentically attested, circumstantially minute, and surpassingly absurd? It reaches us as a condensed cutting from an American paper—the *Linn County Register*—and deserves a prominent place amongst the records of modern superstition:

The Rev. Mr. Cleghorn, of Cower's Ferry, Cedar county, had one of his sons bitten by a mad dog recently, and also the horse on which the boy was riding at the time. Having seen the account which was published a few days after of the 'mad-stone' in the possession of Mr. Evans, of Paris, in this county, he immediately started thither with his boy and horse. The stone was soaked in warm milk-and-water, and then applied to the wound. It adhered with great tenacity, so much so as to cause intense pain for a few minutes. After a short time it

seemed to fill itself, and dropped off. After being submerged in the milk-and-water again, during which a green, offensive scum would arise from the stone, it was again applied. After the fourth time, it would not adhere any more, and Mr. Evans pronounced him cured. It was then applied to the wound on the horse, to which it adhered three times only."

This, of course, was another cure!

#### MEDICAL ORPHANAGE.

It does not detract from the merits of that noble charity, the Medical Benevolent Institution, that its resources are insufficient for the relief of more than a moiety of the orphaned and destitute children of medical men, and that other institutions are called upon to supplement its beneficent action. It may, indeed, be fairly interpreted as a touching and urgent appeal for largely-increased support, and co-ordinate extension of its benefits, that its bounds are yet so cramped by pecuniary deficiencies, that there still exists an overplus of fatherless children of medical practitioners. This excess of destitution is absolutely greater than the whole amount, without deduction or diminution, in other professions less trying to the constitution, and less hazardous to life. The authorities of the Infant Orphan Asylum, Wanstead, call attention to the services which their charity renders to the bereaved children of surgeons. From a statement issuing from the London Office at Ludgate-hill, it appears that whilst the total number of fatherless children contained in the Asylum amounts to 570, nineteen are children of clergymen, twelve of solicitors, and no less than forty-three are from the medical profession. This striking announcement cannot be received without emotion. It preaches caution; it appeals for charity. The average income of the medical practitioner is not below that in other professions; but it is very precarious, and perhaps not sufficiently husbanded. This is a matter worthy of thought, and open to discussion. However it be, this circumstance constitutes a powerful claim upon the medical practitioners of the country. The children receive a good education, fitting them for respectable positions in society. The situation of the Asylum is healthy; the food abundant and good; and the results are shown in the remarkably small amount of sickness experienced. It is a noble charity; and since it contributes so much to the relief of the widows and orphans of medical men, it commends itself by that fact to the generous support of the more prosperous members of the profession.

#### WANTED A WET NURSE.

The wages of a wet nurse are too often the salary of sin, and carelessly lavished by perverted luxury. One woman neglects her duty, and subornes a poorer to the like offence, that she may buy immunity for her offspring from the

sufferings to which she dooms the child of the hireling. When a wet nurse is not a necessity, her functions are disgraceful, and her presence is a reproach. It is impossible not to reflect on the possible fate of that nursing deserted by its natural guardian, or, at least, robbed of its intended pabulum. Only necessity justifies the employment of wet nurses; and it is probable that if the demand for their services were limited to those cases in which alone they can be justly claimed, enough would be found who could supply the mother's place without neglecting sacred duties to their own offspring. Thus a fertile source of disease amongst children would be removed. We record with satisfaction the following resolution, passed by the Weekly Board of Governors of that admirable and most useful institution, the British Lying-in Hospital, Endell street, Bloomsbury, which fully recognises a principle often advocated in these columns, and adopts a judicious rule which we would gladly see enforced at other similar institutions:

"The Board, considering that it is advisable to refrain as far as possible from encouraging the employment of wet nurses except in peculiar cases, resolved—

"Any person desirous of engaging a wet nurse at or by means of this hospital, must produce a certificate from the medical attendant stating that for the safety of the mother or child it is absolutely necessary that a wet nurse be engaged.

"The matron shall keep a book in which to enter the names and addresses of applicants for wet nurses; and this book, together with the medical certificate forwarded to her, shall be laid before the Weekly Board from week to week for inspection."

#### VERDICTS OF "FOUND DEAD."

A few practical illustrations are often more effective than much close reasoning or eloquent exposition unaccompanied by examples. It is almost a platitude to say that the security of the subject which is afforded by the inquest jury cannot be too highly prized. The inquiry before a Coroner involves legally no imputation against any person, while it affords a protection against the baseless suspicions often excited by a sudden death. On the other hand, a rigid inquiry made by a competent medical officer, into the pathological appearances in cases of sudden death not duly certified, affords the most secure guarantee against infanticide, and secret and other kinds of poisoning. The report of Mr. John Liddle, the sanitary officer of the Whitechapel Board of Works, dwells upon the importance of more frequent post-mortem investigations, and more settled rules for the holding of inquests, and quotes some particular cases in point. Inquests were holden on four cases, in which death was supposed to have been caused by drowning. In two of these in-

stances the verdict was "Found dead in the river, without marks;" in another instance a man was found dead in a bath, in the Goulston square Baths, when the verdict recorded was "Found dead from drowning." In not one of these instances does it appear that a post-mortem examination was made; and the verdict of the jury throws no more light upon the cause of death than had been previously obtained by the constable, or beadle, or police officer, who gave information of the death to the Coroner. The body was found dead, and the public acquired no further information from the deliberation and verdict of the jury, than they possessed before the inquest. "In regard," says Mr. Liddle, "to some of these cases, and particularly to that of the man *found dead* in one of the baths in Goulston square, there is as much reason to believe that death was occasioned by poison or by internal disease, as by the cause alleged." Were post-mortem examinations obtained with greater facility, such doubts could not arise. Mr. Liddle strongly advocates the institution of such investigation in all similar cases. Science and justice could only gain by such a system; the objections to it are mainly pecuniary. In such instances as Mr. Liddle mentions, post-mortem examinations are invariably enforced by Mr. Wakley in the Western division of Middlesex.

#### THE NINETY THOUSAND VICTIMS OF SMALL-POX.

The present moment is favorable for the statement of the vital economies of vaccination, and the exposure of the homicidal results of its neglect. Parliamentary petitions, reports of health officers, Privy Council returns, hospital statistics, and other such weighty but disregarded documents, have of late years incessantly attacked the public mind to little or no purpose. An ever increasing mortality from a disease which human skill can annihilate, testifies to the difficulty with which the simplest truths can make way amongst the masses, when the appeal is made only to their reason. Fear and affection afford easier access, and have more potent sway. When the eye sees and the heart grieves the understanding is easily convinced. A limited domestic endemic may work more strongly than unassailable logic, backed by distracting rows of figures. The closure of the Small-Pox Hospital against the redundant applications, the outbreak of small-pox in poor-houses, the notable invasion of some metropolitan parishes, and the palpable waste of some lives beneath our eyes, have awakened general interest in vaccination, and afforded an opportunity which it will be well to improve.

"*Signus irritant animos demissa per aures,  
Quam quo sunt oculis subjecta fidelibus.*"

There are a few broad facts in relation to the mortality from small-pox, and its preventibility by vaccination, which may be universally made

known with considerable advantage. They have long been patent to many persons, and some of them are not stated here for the first time, but recapitulated as capital facts, well pointed, and such as can be driven into the thickest heads. The number of deaths from small-pox in England, Ireland, and Scotland, during the last ten years, is estimated at 90,000 souls. It has been proved that amongst persons of all ages protected by vaccination, soldiers, sailors and ship-boys in England, the deaths are only about one in 5400 annually. Amongst sailors who are the least exposed to contact with unvaccinated people, the mortality was found to be only one in about 20,000. In Denmark, careful vaccination of the population succeeded in wholly removing the disease; and when this immunity was so far lost that at the end of fifteen years it reappeared, its poison was so enfeebled as to excite little uneasiness. Now, at the observed rates of death amongst exposed persons in England, had those 90,000 victims been duly vaccinated, not more than five per cent. would have died. We should have saved the lives of 89,675 persons during ten years; and in this calculation no allowance is made for progenic increase. In no country in Europe (beyond the United Kingdom) which furnishes reports to the Epidemiological Society, is the average mortality from small-pox so high as in England and Wales. It constitutes about 1½ per cent. of the mortality from all causes, and in nine years, from 1848 to 1856, killed 41,290 persons, or 4587 every year. In 1857 an alarming increase of 1659 upon the deaths of the preceding year was noted by Dr. Farr.

The mortality in England and Wales is three and seven-fold the average of Bohemia or Lombardy. If we would see it surpassed, we must look to the sister kingdoms of Scotland and Ireland, where even the deplorable loss which we suffer is too favorable a standard of comparison, and the mortality of our worst years is habitually exceeded. In his last report, the Registrar-General for Scotland says: "Bearing in mind that the proportional mortality in London has never during the last ten years attained 3 per cent., we read with amazement and regret that in Aberdeen, in July, 1856, small-pox caused 10 per cent., in Edinburgh 5½ per cent., and in Paisley 5 per cent. of the total mortality. The deaths in Paisley, in October, constituted 7 per cent., and in February upwards of 13 per cent. of the total mortality; while in Leith, the deaths in January and February were no fewer than 28·3 per cent."

Thus, if we wish to find a country in which the preventible pestilence of small-pox is allowed to rage more freely than in England, we are compelled to turn to Scotland. And if the Scotch should seek consolation in looking out for a nation more negligent and more suffering than themselves, they will find only one in Europe—the people of Ireland. As much as we are behind continental nations in vaccination—as much as the Scotch are below us—are the

Irish people more unfortunate in this respect than the Scotch. Ireland is stated to be the only country in Europe in which the people are left entirely to themselves as to vaccination, and are permitted either to neglect or subject their children to the process as they please. In an excellent paper which Dr. William Moore, of Dublin, read at the meeting of the British Association, Aberdeen, "On the Statistics of Small-pox Vaccination in the United Kingdom, and the Necessity for a Better System of Vaccination in Ireland," he forcibly recapitulates these facts, and shows that the mortality of Ireland is nearly three times that of England, twice that of London, and ten or fifteen times greater than that of many continental countries. Ireland alone, amongst European countries, is devoid of a registration of births, deaths and marriages. This boon, long promised and often deferred, may confidently be expected next session from the hands of Lord Naas, and under the auspices of the Earl of Carlisle. It is this which Dr. Moore wishes to see the base of operation for vaccination. His paper is well arranged, and stored with facts; his scheme good so far as it goes. At present, Ireland suffers more profoundly than any other European country from this horrible and disgraceful scourge; and it is but once in ten years that she can examine her wounds, and judge of their extent.

#### MORTALITY AMONGST MINERS.

Investigations of the causes of mortality amongst special classes have a definite object apart from any general sanitary inquiries. They seek to discover particular causes of enhanced mortality, determine the nature of these causes, and estimate their relative preventibility. The excessive mortality of miners has frequently engaged public attention; and in so far as it is the result of accident and calamity, mechanical means, however imperfect, have been devised, and will continue to be suggested from time to time, tending to lessen the frequency of such catastrophes. But the main part of the excess of mortality amongst this class of men is hardly traceable to such causes. The life of the miner and of his children is cut short by fatal and premature disease. This does not burst forth violently and sacrifice suddenly some dozen lives, under accompaniments so moving as to attract the eyes of a nation; as when the destructive demon of fire-damp breaks loose, or a volume of steam bursts its iron bounds, and scatters cruel strokes of death around. It employs the weapons under which men die daily on all sides: the familiar destroyers of English homes; household words in the Registrar-General's office. Consumption, pneumonia, hooping-cough, marasmus, are more fatal, but less portentous agents of destruction; they work slowly, successfully, and without making any stir.

Attention has been particularly directed to

the premature death of pitmen by the investigations set on foot with the view of providing data for calculations necessary to the establishment of a Miners' Provident Association. It has been shown that whereas, amongst the ordinary population of 100,000 persons alive at the age of 18, there are 46,015 living at 65; at the same age, out of a similar number, there are only 39,687 pitmen, the difference being owing to the excessive mortality in miners in early life. At the age of 70, there are remaining of ordinary lives, 34,901; of pitmen, 28,895.

The sickness reports of Mr. Ratcliffe show "a very large amount of disease amongst this class at every period, and an increased sickness with an advance of years. At the age of 20, miners experience an average sickness of 47 per cent. more than the general class; at 30 years, they have 70 per cent.; at 40 years, 78 per cent.; at 50 years, 76 per cent. more than the average sickness of the general class of lives." These and other circumstances in relation to sickness and death rates introduce peculiar difficulties into any scheme aiming at the adjustment of equitable tables for provision of sickness allowance. At present none exist.

Having thus far ascertained the broad statistical outlines of life value amongst the mining population, preventive medicine has a further mission—namely to analyze the character and relative frequency of the fatal diseases, and to point to the conditions which favor them, and the provisions by which they may be combated. This we are glad to find that Mr. Richard Couch, surgeon of Cornwall, is ably accomplishing for a large section of the Cornish miners. In a paper on the "Mortality of the Miners in the District of Lelant," published in the Twenty-sixth Annual Report of the Royal Cornwall Polytechnic Society, Mr. Couch seems to establish conclusively that the occupation of the miner is mainly destructive to health by the disposition which it gives to fatal pulmonary disease. The mortality from thoracic affections amongst the miners is always more than that arising from all other causes combined, and, in most cases, is nearly double that found in the general population living in the same district. If we take the six years terminating in 1857, we find that amongst miners consumption gave an average mortality of 55.4 contrasted with 19.3 on the general population. Compared with other surrounding laborers, it is observed of the miners that after crowding at home, they are in a worse atmosphere while at their daily work than even in their daily dwellings. Again, with the exception of the Saturday afternoon and the Sunday, the miner has, for months together, but little enjoyment of the sun. These causes of death Mr. Couch promises to examine further, and subsequently report upon them. We call attention to his researches, as of an eminently practical and philanthropic character, and such as may be very usefully imitated in all other mining districts.

## NATIVE INDIAN STUDENTS.

Considerable interest attaches to the efforts made by the Government of India to train natives for the medical profession, and employ them in the military and civil services. The Grant Medical College, Bombay, at which these students are educated, has recently issued its thirteenth annual report. During the session, forty-four students have attended the classes: twenty-six Parsees, ten Hindoos, two Borahs, four Portuguese, one Mussulman, and one Christian. This number is not large, but the principal states that the College could not efficiently educate more than fifty, and that the high standard of qualification fixed for the graduates of the College tends at once to diminish the number of the aspirants, and to increase the value of the degree, so that "the services of each graduate, from his high professional acquirements, continue to be eagerly sought by his countrymen, and liberally remunerated." The course of study is closely allied to that pursued in European schools, but more complete and protracted. The annual examinations last several days, and are both written and oral; those for the diploma of graduate are conducted by the Government examiner and assessor. This examination is not a mere form, for in a previous year a very large proportion of candidates were rejected. Great satisfaction is, however, expressed this year at the proficiency and conduct of the students. The College appears to be very liberally endowed, and a large number of prizes and scholarships were bestowed. The appreciation of the objects of the College is sufficiently evidenced by the interest shown by Sir Jamsetjee Jeejeebhoy in its success. Since its establishment in the year 1845, he contributed, in founding endowments for the encouragement of the students, and in providing the means for practical instruction in one very important department, no less a sum than 49,452 rupees, and this quite exclusive of 160,000 rupees which he had previously contributed towards the building and endowment of the Jamsetjee Jeejeebhoy Hospital.

## PERILS OF PARTURITION.

**DIED IN CHILDBIRTH.** That terse and trenchant sentence records a fate which is always pathetic, and of which the daily recurrence cannot blunt our sympathy. But the habitual repetition of the tragedy leaves no food for wonder, although it never fails to move compassion. The perils of childbirth are so great, the new life is so often achieved only by the sacrifice of another, and the child hustles the mother from the stage! The greater the reason that these dangers should not be enhanced by ignorant and unskilful tendance, and that the incapacity of the attendant should not aggravate the inherent perils of the mother's position.

A surgeon of high respectability has forwarded to us the details of a case of death in child-

birth, where he states that an uncertified and incompetent midwife in attendance was guilty of the grossest malpractice, such as apparently produced the death, in relation to which he has vainly attempted to obtain an investigation. On the 15th of August, Elizabeth M'Guinness, at Halling, a woman in the full vigor of health, the mother of eight children, was taken in labor. She was attended by Elizabeth Woolmer, a laborer's wife, who had lately assumed the calling of a midwife without previous experience or instruction. The patient was delivered, it was said, of a healthy child, without difficulty; but within three hours afterwards she was dead. Next day, when seen by the gentleman who details the case, her face was bloodless and pallid, as if from excessive hæmorrhage, and the funis umbilicalis was still hanging from the vulva. There were all the *à priori* evidences of death from flooding, with gross mal-treatment in not removing the "after-birth." Within a few months several other cases had occurred in the same village, in which lying-in women narrowly escaped death from similar mal-treatment at such hands. It was, therefore, justly thought that an inquiry was needed; but, strange to say, the representations made have been wholly ineffectual to procure an inquest; and after a correspondence with the Secretary of State, the applicant is compelled to retire, with only official acknowledgments of the receipt of his letter, and assurances that proper inquiry shall be made. No inquest, however, has been held, and the neighborhood is, we think, justly pained that a death, under circumstances so grievously suggestive of homicidal mal-practice and incompetence, should be obstinately passed over, and that suspicions and doubts so painful as those which have arisen in this case should not be set at rest by the inquiry which the law directs.

## MOTHERS AND CHILDREN.

It is an admirable thought of those excellent women who have labored successfully to enlist women's wit and women's hearts in this great campaign against ignorance, dirt, and uncleanness, that they have determined to direct their first efforts to the amelioration of the relations between mothers and children. It is an ample sphere for utility; there is such sore need for help to these innocents, of whose massacre we have so often during late years painfully, and almost helplessly, related the details. For with all the great growth of our civilization, and the advance in life-range, infantile mortality has been untouched; it has been nearly unassailed. And yet we have the conviction that this terrible item in the bills of death may be more easily economized than any other. "How to feed babies," "how to dress babies," "how to ventilate a room," "how to avoid narcotics," "how to manage children," "how to cook plain food," "how to keep a house clean,"—these are the

elemental letters of the language in which the people must be addresssd. Women may teach this alphabet to women. Why not the alphabet of the science of life as well as the alphabet of language—the reading and writing of physiology? Admirable addresses have been printed by Dr. Lankester, Lord Shaftesbury, Dr. Southwood Smith, Mr. Kingsley, and others, eloquently dealing with this theme; it is one which should profoundly interest the wives and daughters of medical practitioners, who will find a boundless field of usefulness opened before them by co-operating with the Ladies' National Association for the Diffusion of Sanitary Knowledge. It were easy for one woman to become thus the saviour of the lives of many children, and the benefactor of hundreds more.\*

### Foreign Department.

#### FORCIBLE EXTENSION OF THE KNEE JOINT; APPEARANCES ON THE POST-MORTEM EXAMINATION.

M. Demarquay mentioned the following case at one of the late meetings of the Surgical Society of Paris:—A boy, ten years old, from South America, was sent to him with white swelling of the knee. The flexion of the joint was so great that the heel touched the posterior aspect of the thigh. Slight mobility of the patella and of the articulation; great emaciation; chest sound. Evacuation of a small quantity of pus by the trocar, and subsequent injection of iodine, were well borne. Soon afterwards, the joint was forcibly stretched whilst the patient was insensible with chloroform, and placed in a concave splint, which was soon replaced by a starch bandage. Some little time elapsed, when the boy was suddenly carried off by pneumonia.

On examination of the joint, no pus was found in it, but the femur was considerably bent in its lower portion, and the bone was found fractured along its posterior surface, the anterior lamella being sound. Lungs studded with tubercles. The fracture was evidently caused by the forcible extension.

M. Chassaignac observed that bones in such operations are much more frequently broken than surgeons imagine, which accident occurs, according to another speaker, M. Broca, from softening of the bones. Such fractures have been known, however, to unite pretty rapidly. We hold that the reduction of luxations, or forcible extension of joints, carried on whilst the patient is narcotized, should be performed with great caution, as the guide presented by the sensations of the patient is quite absent, and great mischief might follow the reckless employment of force.

\* See the Report of Meeting of Ladies' Sanitary Association, at St. George's, Hanover-square. London, 1859. Office of the "English-woman's Journal," New Cavendish-street.

#### SMOKING, THE EXCITING CAUSE OF CANCER.

M. Bouisson has published a valuable article in the *Montpellier Medical*, wherein he endeavors to prove that smoking is often a very active exciting cause of epithelial cancer about the tongue, lips, sides of the cheeks, or soft palate.

M. Bouisson has collected sixty-eight cases of cancer and canceroid of the lips, in which the habit of smoking was either carried to excess or was very inveterate. He considers that such morbid products have more frequently been seen since the custom of smoking has become general; but concedes that, for the development of cancer, there must be the proper diathesis. The author maintains, however, that this tendency would often have remained latent without the local exciting cause to which we have alluded. He further states, in support of this opinion, that labial cancer mostly attacks the lower lip, where the cigar or pipe rests; and that such cancer is rare with women and children. One young lady is mentioned who suffered from the affection; but she used by stealth to smoke immoderately.

The more inveterate the habit, the more frequent the cancer, especially with those who smoke short pipes and strong tobacco. Cleanliness, long pipes, and mild tobacco, may keep off the complaint.

M. Bouisson operated upon a medical man of Barcelona, who, in the Spanish fashion, allowed the smoke of cigarettes to escape through the nose. The nostrils were filled with epithelial vegetations.

No doubt M. Bouisson's paper is extremely valuable; but it might be asked whether the disease in persons laboring under the diathesis would not have broken out elsewhere. It is, besides, well known that labial cancer has been found in patients who never smoked in their lives. That smoking *may* act as an exciting cause, is, however, both rational and in accordance with fact.

#### DIPHTHERIA AFFECTING WOUNDS MADE BY SURGICAL OPERATIONS.

M. Guersant, in speaking of diphtheria at a meeting of the Society of Practical Medicine of Paris, said that between 150 and 160 cases of the malady had occurred at the Children's Hospital during the first half of the present year. He added that, in private practice, and at short intervals, he had operated in three cases of phymosis in children, living in different districts, and whose parents are in good circumstances. Three days after the operations, a diphtheritic coating covered the wounds, and the malady from thence attacked the tonsils. Chlorate of potash was given, and the children recovered.

The mother of one of the patients took the disease, and got well. In the family of another of the children, the father, a brother, and two servants sickened of diphtheria. They all re-



covered, except the brother, who, being struck with great terror at the complaint, died, as if poisoned, in a slow asphyxia.

LUXATION INTO THE OBTURATOR NOTCH MISTAKEN FOR  
DISLOCATION ON THE DORSUM OF THE ILIUM.

A man was violently flung against a wall by machinery. Besides slighter injuries, the thigh was found dislocated. The symptoms were—inversion of the limb, the leg half bent upon the thigh, and the latter upon the pelvis. Extension painful; a slight shortening observed; prominence in the gluteal region; trochanter thrown backwards; adduction easy; abduction and rotation outwards painful; on strong pressure a little below the anterior superior spinous process of the ilium, the cotyloid cavity seems empty. Reduction under chloroform. The patient died of internal injuries soon afterwards, and the laxation was found to have been into the thyroid notch!

TREATMENT OF DIPHTHERIA IN PARIS.

M. Loiseau, who is well known in Paris for his successful treatment of croup by topical remedies, writes to the *Gazette Hebdomadaire* to urge his professional brethren not to use debilitating means in the treatment of diphtheria, and to put their trust in topical and styptic measures. The author adds the following figures, which speak volumes:—Out of 95 patients treated topically, only 2 died; one without treatment (we must suppose that the author means that the patient was carried off before the topical treatment could be used), and the other with an imperfect treatment. All the others recovered, without any unpleasant sequelæ, and even without a well-marked period of convalescence. As to the ages of the patients, M. Loiseau divides the cases in the following manner:—

Patients.	Age.	Recoveries.
15 . . . .	from 0 to 2 years . . . .	13
22 . . . .	" 2 to 6 " . . . .	22
9 . . . .	" 6 to 12 " . . . .	9
10 . . . .	" 12 to 18 " . . . .	10
39 . . . .	" 18 to 60 " . . . .	39
Total 95		93

More than half of those whom M. Loiseau attended after they had been treated with emetics and alterants perished, and the greater part of those who recovered suffered subsequently from œdema, anasarca, or paralysis, or had to go through a protracted convalescence.

GLYCERINE OINTMENT FOR THE ITCH.

M. Bourguignon, so well known in Paris by his successful researches on "the acarus scabiei," has published in the *Gazette Medicale* the following formula. One general friction, not preceded by soap ablutions, is sufficient:—Yelks of two eggs; essence of lavender, lemon,

and mint, of each seventy-five drops; essence of cloves and cinnamon, of each 120 drops; gum tragacanth, half a drachm; well-pounded sulphur, twenty-six drachms; glycerine, thirty-two drachms. Total weight, nearly eleven ounces. Mix the essences with the yelks of egg, add the gum tragacanth, make a good mucilage, and then add very gradually the glycerine and sulphur.

Many cures have been obtained by this preparation, which has the advantage of giving no pain.

The well-known Helmerich ointment being really useful, M. Bourguignon has modified it, and substituted glycerine for the axunge. In the altered form, the preparation is not any dearer, as efficacious, and less painful than the original ointment. It does not grease the clothes, and has an agreeable perfume. Gum tragacanth, fifteen grains; carbonate of potash, thirteen drachms; well pounded sulphur, twenty-six drachms; glycerine, fifty-two drachms; essence of lavender, lemon, mint, cloves, and cinnamon, of each fifteen drops. Total weight, nearly eleven ounces. Make a mucilage with the gum and one ounce of glycerine, add the carbonate, mix until it is dissolved, and then gradually add the sulphur and glycerine; lastly, pour in the essences. With this compound, M. Bourguignon advises two general frictions of half an hour, within twelve hours of each other, and followed, twenty-four hours afterwards, by a simple warm bath, as the glycerine is soluble in water. Two-thirds of the preparation should be used for the first friction, and the other third for the second.

TESTS FOR THE PURITY OF CHLOROFORM.

M. Berthe gives the following directions, in the *Moniteur des Hopitaux*:—Chloroform may contain chloride of elaidine, alcohol, various chlorides, amylic and methylic combinations, and aldehyde. By adding caustic potash to chloroform containing chloride of elaidine, the compound is transformed into chloride of acetylene, the fœtor of which is immediately noticed. In order to ascertain the presence of all the other compounds which may be mixed with the chloroform, especially alcoholic compounds, pound a small quantity of bichromate of potash in a little chloroform, and add to this mixture a few drops of sulphuric acid. If the chloroform is pure, a reddish-brown precipitate of chromic acid is formed; if not pure, the acid is reduced, whilst the precipitate, or sometimes the liquid itself, assumes a green color, dependent on the presence of the sesquioxide of chrome.

## Miscellaneous Correspondence.

"Audi alteram partem."

ON THE TREATMENT OF TETANUS BY  
WOORALI POISON.

[LETTER FROM PROFESSOR HARLEY.]

To the Editor of THE LANCET.

SIR,—In THE LANCET I find it stated that—"M. Vella, of Turin, arguing from the fact shown by M. Bernard in 1850, that the woorara poison is a direct sedative of the motor nerves, undertook a series of experiments which clearly showed the antagonism between strychnine and woorara. Being appointed to the French Military Hospital at Turin during the late campaign, and seeing several cases of tetanus which had resisted opiates, ether, &c., M. Vella resolved to try woorara. The first trials were made upon two patients who had been suffering from tetanus for four and five days respectively, in consequence of gun-shot wounds. They were both in a semi-asphyxiated and desperate state. The woorara produced a general relaxation of the muscular system, whereupon the patients felt much relief; but they both died. The same treatment was, however, employed upon a third patient, who recovered. He was a sergeant, thirty-five years old, tetanic from a gun-shot wound of the foot. Two grains of woorara were dissolved in nine drachms of water, and compresses moistened with the solution were applied to the wound; the strength being gradually increased to fifteen grains in fourteen drachms of water. For the first four days the compresses were renewed every third hour; afterwards every fifth hour, up to the twelfth day, when the changes were reduced to three and two in the twenty-four hours. In twenty-two days the patient could leave his bed, and returned to France thirty-six days after the first application of the woorara."

You may, perhaps, remember that in 1856 I pointed out, in the pages of your journal, the antagonistic action of wourali and strychnine—citing three experiments to show that these two substances have the power of reciprocally neutralizing the effects of each other, according as the one or the other poison is in excess. The conclusion I then drew from my experiments was, that wourali might be used as an antidote for strychnine. Since 1856 I have frequently repeated these experiments, and on several occasions have succeeded, by means of wourali, in saving the lives of animals to which I had administered strychnine in poisonous doses.

Two years ago, through the kindness of Professor Varnell, of the Royal Veterinary College, I had the opportunity of trying the effects of wourali on a horse laboring under a very severe attack of tetanus. Although I did not succeed in saving the life of this animal, I nevertheless

saw enough to convince me of the value of the remedy. Indeed, I was so convinced of its beneficial effects that I would have tried it on a boy laboring under traumatic tetanus whom I shortly afterwards saw along with Dr. Madge, had the disease not yielded to other remedies.

Seeing the success that has attended the administration of wourali poison by M. Vella, and the results of my own experiments, I feel anxious that this substance should receive a fair trial at the hands of the profession. No doubt wourali is a dangerous poison, but in hands habituated to its use I believe it is not more to be feared than opium or any of the stronger drugs.

I am, Sir, your obedient servant,

GEORGE HARLEY, M.D.

Harley Street, Cavendish Square, Nov., 1859.

## ON THE TREATMENT OF EPIDIDYMITIS,

To the Editor of THE LANCET.

SIR,—Having frequently seen the acutely painful congestion and inflammation of the epididymitis treated with severe and sometimes baneful remedies, as the strong mercurial ointment, often pushed to the threshold of, and sometimes to, actual salivation! I am anxious (if you will allow me space in your valuable publication) to describe a method of treatment which I have always found successful in a number of cases of this complaint, and of every degree of intensity in their symptoms. I, therefore, on the first day of treating the case in hand (having relieved the bowels, if necessary, with a mild laxative), keep my patient in the recumbent position, and confined to a diet consisting of barley-water, tea, and mutton-broth, with bread alone as the *pièce de resistance*. Hot-water fomentations to the scrotum I enjoin to be frequently employed (and this treatment alone will often remove incipient attacks, also those idiopathic ones occurring in young and healthy youths at puberty). To continue: after the first day's preparatory treatment with "simples," I give the tartrate of antimony in doses of half a grain for an adult, with from three to five grains of the extract of hyoscyamus, in a pill, every four hours, unless the case should present cerebral and other febrile symptoms, when a common saline mixture, consisting of nitrate of potass with ipecacuanha wine, &c., will reduce these, and make the skin act, when I can resume the tartrate of antimony regularly until the tumor be resolved.

In cases of this disorder occurring in debilitated frames, the congestion appearing to arise from a vitiated condition of blood, the healthy red corpuscles being at a minimum, I have found, after the usual preparatory treatment, that the administration of the tincture of sesquichloride of iron, in five minim doses, or of the sulphate of iron and sulphate of magnesia (combined, and each in small doses,) has cured the patient.

I have never had occasion to use bloodletting

(even by leeching) or mercury in treating "swelled testicle," and have always found the before-mentioned plan of treatment rapidly and steadily succeed in resolving the largest tumors of this description, and have also found it useful in reducing obstinate and chronic buboes which have defied both blisters and iodine, &c.; the only difference in the treatment of the latter is that I have given the nitrate of potass with ipecacuanha, in small doses, instead of the potassio-tartrate of antimony.

It is probable that the explanation of the value of "preparatory dilutent treatment," in local and organic congestions, is that the blood discs, by "endosmose" rendered more pervious to the action of remedies, such as tartrate of antimony and nitrate of potass, more rapidly respond to their stimulus; and, being contracted in volume, the capillary calibre is also reduced upon them; and, lastly, the circulation in ultimate capillaries is accelerated, and congestion relieved.

I am, Sir, your obedient servant,  
M.R.C.S.E. (Army.)

[LETTER FROM MR. DE MERIC.]

To the Editor of THE LANCET.

Sir,—I was much interested by the letter of "M.R.C.S.E. (Army)," in your impression of the 6th instant, and am convinced, with the writer, that rest, low diet, soothing applications, and tartar emetic, will remove inflammations of the epididymis, and acute phlogosis in many other parts of the body. But the author of the letter omits to tell us the *average time* which his treatment will take to allay the inflammation. This is a matter of importance, not only because it is very inconvenient for many patients to be kept recumbent for a week or two, but also on account of the care we should take to arrest the process of inflammation as soon as possible, in order to avoid an abundant effusion in the structure of the epididymis.

If in practice we could always do as we like—if we could restrain the impatience of those who seek our advice, and shape the course of the treatment irrespectively of various circumstances, we could, in adopting the author's method, very often do without the lancet or leeches. But every surgeon knows that it is seldom so. We must endeavor to cure, not only *tutò*, but also *citò*; and leeches are thus forced upon us. Nay, more; what are you to do with hospital out-patients suffering from epididymitis? The mechanic will not leave his workshop, the costermonger clings to his truck, &c.; what becomes, then, of rest and dilutent treatment? Bending to these circumstances, I have found that leeching along the cord, a suspensory bandage, with frequent relays of lead lotion with brisk purgatives, will allay inflammation in a week or ten days, this being a kind of peripatetic treatment. It should be noticed that leeching is more often advised than carried out, and yet the patients get well, though walking about

and working hard. When all pain is gone, the induration of the epididymis consequent upon the inflammation gradually gives way to applications of mercurial ointment, which need not be continued to salivation.

As to mercury, however, either internally or topically, I am not aware that it is much used by anyone in the acute period of the affection. To favor absorption, I am in the habit of giving small doses of iodide of potassium, with very good results. I find, however, that the induration persists for a long period—longer, indeed, than one would feel inclined to advise a continuance of the treatment; time will do much in this respect. It would have been interesting to have heard from the author whether the hardened mass was more or less observed in his cases after the inflammation had been subdued by the very judicious treatment he advocates.

One word about the idiopathic epididymitis of young subjects. I am not disposed to admit that such inflammation is *idiopathic*; and have found it in several cases the result of irritation of the whole tract lying between the meatus and the vesiculæ seminales from habits common amongst the young. This should be borne in mind. One case in particular is remarkable:

A youth of fourteen years suddenly felt severe pain in the left testicle, and the train of symptoms peculiar to epididymitis set in. They were subdued by rest and the application, as I heard, of a black ointment, probably containing iodine. The attack lasted but a few days, and all was soon well. But, from that moment, the testicle began to waste; and when I saw the patient, at the age of eighteen, the left testicle was about the size of a bean, and the right of the normal bulk. At that period he sought my advice for an attack of gonorrhœa, contracted in the ordinary way. I treated it with cubebs and astringent injections. Soon afterwards, the epididymis on the right side became inflamed, and I considered myself called upon to adopt energetic measures on account of the state of the left testicle. Leeches, rest, antimony, &c., soon subdued the inflammation, and very little induration was left. But the interesting part of the case remains to be told. When the discharge had disappeared, and the right testicle was comparatively well, the left began to *increase* in size, without pain or any unpleasant symptom, and soon reached the size of a walnut. At that stage the patient left London, the generative power being in good condition.

I am, Sir, your obedient servant,

VICTOR DE MERIC,  
Brook street, 1869. Surgeon to the Royal Free Hospital, and to the German Hospital, Dalston.

#### A MEDICO-LEGAL CASE.

To the Editor of THE LANCET.

Sir,—On the 29th of April last I was requested to visit a butcher, a stout, plethoric man, of middle size, and about fifty years old, represented

as having been taken suddenly ill and dying. It was about nine o'clock A.M. when I first saw him. His wife stated that he had left his home about seven o'clock the same morning, when she observed nothing unusual in him, but that he had complained of his head very much during the last fortnight. Previously he had had several apoplectic attacks; it was a family complaint. His countenance was natural. His eyes were not suffused, but each pupil was fixed, and dilated at least a quarter of an inch, bearing strongly the appearance of pupils immediately after a sudden death. His extremities were extended, very rigid, and affected with frequent, sudden, and very violent convulsive jerkings. His breath was slow and stertorous; pulse full, jerking, and without distinct beat. He was bled to two pounds. Immediately the symptoms somewhat abated, perspiration commenced, and he showed an inclination to vomit. Eighteen leeches were applied to the temples. In two hours consciousness returned. On the following morning, he was apparently in his usual health, when, for the first time, ecchymosis of the neck was discernable.

What can be learned from this case? Can the conditions of the pupils be considered pathognomonic? On my first visit, I considered the case to be ordinary apoplexy, but was greatly struck with the anomalous condition of the pupils. Judge of my surprise on being informed immediately afterwards that the symptoms were the result of hanging. Should the case be adapted to excite inquiry and promote science, it is at your disposal.

I am, Sir, yours obediently,

M. D. THOMPSON, F.R.C.S. &c.

Stalybridge, Sept. 1859

#### ON MERCURY AS A CURATIVE AGENT.

To the Editor of THE LANCET.

SIR,—I observe a letter in your journal from a correspondent who signs himself "M. D.," on the non-curative effects of mercury.\* The opinions of the writer upon this subject do not seem to me to be such as to require any notice in themselves; but it becomes a very different matter indeed when he proceeds to state as a fact that "Professor Syme never gives a particle of mercury in any form of disease, and this after thirty-six years' practice:" a statement that I hesitate not to affirm to be not only untrue, but the very reverse of truth. Mr. Syme's reputation is so high and wide, and has been won so fairly and honestly, as to render his opinion upon any matter of practice of very great weight with the profession. I have had the honor of knowing Mr. Syme for nearly twenty-seven years (a good part of the above mentioned thirty-six years), five of which were spent in the unrestrained intimacy of master and apprentice, and have seen his practice fully as closely as any

individual ever could do. During the time of my apprenticeship I have seen him again and again prescribe mercury in the treatment of iritis. Although perfectly certain that no change in his treatment had occurred since that time, to render my assurance doubly sure, I turned to the fourth edition of his "Elements of Surgery," published in 1856, and at page 440 I found the following passage, which contains his ideas concerning the treatment of iritis:—

"In the treatment of iritis, the ordinary means of depletion are found to be insufficient for arresting the morbid process. The pain and fever may be thus diminished, but they are not removed; and the effusion of lymph proceeds as if no attempt had been made to control the disease. The grand remedy for it is *mercury*, given so as to affect the system; and if this be done early, while the usual measures for subduing inflammatory action are at the same time employed, and there is no local irritation present, there is almost a certainty of affording speedy and effectual relief. It is well ascertained that the constitutional action of mercury is the most powerful obstacle to effusion taking place, and exerts the strongest influence in promoting the absorption of lymph which has been thrown out."

Further on he remarks, that after the abstraction of blood, generally and locally, and the bowels have been freely operated on, "two or three grains of calomel, with a quarter of a grain of opium, are to be given three times a day, until the mouth is affected, when the quantity of the medicine may be diminished so as merely to keep up a moderate ptyalism."

Most assuredly, if words have meaning at all, Mr. Syme's words bear that, in his opinion, mercury, pushed even to salivation, is the right, and the only right, treatment in iritis. Every one who knows Mr. Syme, knows well he means what he says, and no more. It is for your correspondent to reconcile the statement he has made, that for thirty-six years Mr. Syme has never used a particle of mercury, with the plain and unequivocal words of Mr. Syme himself. Whether Mr. Syme is wrong or right in his opinion is another and a very different question; but most certainly he never can be claimed, as he is by your correspondent, as one who does not, in certain cases, use mercury. To say that mercury has often caused mischief is, indeed, a very truism; it only means that medical men are fallible beings, but it does not and cannot in the slightest degree affect the question as to its proper use. The abuse of a thing is no argument against its use.

I am, Sir, your obedient servant,

GIDEON GRAY.

Roxburghshire, Sept., 1859.

\* November number, p. 483.

# A NEW METHOD OF APPLYING CHLORIDE OF ZINC.

To the Editor of THE LANCET.

SIR,—I am not sure whether there is any originality in the following process, but if there be I think it is worthy of the attention of the profession:—

I have often used, and oftener seen used, the chloride of zinc as a caustic; I have mixed it, or seen it mixed, or heard or read of its being mixed, with flour, starch, arrowroot, plaster-of-Paris, and a variety of other substances; but none of them appeared to me altogether satisfactory. A short time ago, it occurred to me that it might be a good plan to form the chloride of zinc, mixed with the sulphate of lime by the double decomposition of solutions of chloride of calcium and sulphate of zinc, of such strength that the result would be a paste or magma suitable for surgical application as a caustic. After some calculations and experiments, I devised the following formula, which I beg leave to introduce to the notice of the profession, especially those members of it who practice surgery:—

Dissolve fifty grains of prepared chalk in two drachms (by measure) of commercial muriatic acid; dissolve a hundred and fifty grains of sulphate of zinc in two fluid drachms of boiling water. When required for use, mix the two solutions, and the result will be a paste weighing nearly an ounce, and containing about one-sixth of pure chloride of zinc. The proportions are nearly, but not exactly, those indicated by the atomic weights. A little study would easily produce a paste of harder or softer consistency.

Trusting that the suggestion which I have offered may, if original, bear good fruit,

I am, Sir, your obedient servant,

G. W. SPENCE, M.D.

Lewick, October, 1859.

# ON THE IDENTITY OF PARASITIC FUNGI OCCURRING ON THE HUMAN SUBJECT.

To the Editor of THE LANCET.

[LETTER FROM DR. J. L.

SIR,—Dr. Fox has, I think, dealt with this subject so fully and clearly,\* that there remains little to be said—*quoad* proof derived from clinical evidence. I would, therefore, merely remark upon one or two points connected with the microscopic characters of the parasites, and cite a case or two corroborative of the *clinical* view of their identity.

1. With regard to variations in form and size of the fungi. These may be, under certain conditions, almost endless. The true *specific* distinction is to be found in the fructification. In the absence of this we cannot *safely* assign the mycelium to any particular genus or species. The shape, then, of the *mycelium* is no criterion.

What of the spore? Dr. Fox quotes an authority who says, that the oval character of the spore of achorion is of great value when compared with the round spore of trichophyton. I quite agree with Dr. Fox in thinking that the oval form is not peculiar to achorion; it is merely a peculiar condition of the spore depending upon its stage of development, and may be modified by external circumstances. We may, I think, assume it as a fact, that, in all the mucor-like fungi, and the parasitic ones in particular, the *aërial* spores or *gemmae* (for these, I believe, are not the *true* reproductive spores of the plant), are spherical. These I have previously explained may, under favorable conditions, retain that form, and may multiply endlessly, as in yeast. But on the human skin the round spores soon assume an elliptical form, and ultimately elongate to form a mycelium in the same manner as yeast-cells act in an acid matrix. It may, however, be doubted whether the oval spores in favus are really derived from the fructification.

I have observed in the vine fungus that the terminal filaments, as soon as they become *aërial*, assume a clavate form, and give off cell after cell, all of which are oval. This is effected by segmentation of the clavate bodies; and it is worthy of remark, that the distal cell is given off before another segment becomes oval. The result of this process is that a pulverulent mass is formed on the surface of the leaf, much in the same way probably as the mass of cells accumulate in a favus crust.

The *spherical* cells only are, I believe, found to be attached in a moniliform manner to a fructiferous stalk. The oval cells, when placed in a saccharine solution, soon become spherical; but when they have commenced to germinate, they again become oval, and finally linear.

The *puccinia* noticed by Arnsted was doubtless an accidental visitor in favus, as the spores are abundant in the atmosphere; or it is still more probable, as Dr. Fox suggests, that Arnsted mistook an unusual form of the achorion for the fungus in question. I have never yet found this peculiar body on the skin, but I have produced and figured one from the growth of favus-cells, so closely resembling a puccinia as to explain readily how such a mistake might occur. This body is, I believe, a *true* reproductive spore formed in a saccule of the mycelium (an *ascus*, if this view be correct). The discovery of sarcina, by Dr. Fox, in tinea tonsurans is peculiarly interesting, as confirmatory of Mr. Berkeley's belief that sarcina was merely a form of benicilium or aspergillus. The latter gentleman attempted to prove this by experiment, but failed. The discovery, by Mr. H. O. Stephens, of the quartenate spores of sarcina on a South American fungus, led Mr. Berkeley to express his conviction of the truth of his ideas on this subject. (*Gardeners' Chronicle*, Aug. 29th, 1857.) I do not think there is the slightest ground to doubt the accuracy of Dr. Fox's observation, more especially since the discovery has been to some extent forestalled by

\* November No. page 420.

the expressed opinion of so eminent a mycologist as Mr. Berkeley.

The day after the above was written, I accidentally met with the *sarcina* under singular circumstances. Some months ago I placed a quantity of crystals of cholesterine, which I had obtained from a hydrocele, in a small vial, having previously washed them. A mass of fungus formed in the bottle, which, on examination, proved to contain *sarcina*. We have thus an additional proof of the truth of Mr. Berkeley's view.

Dr. Fox gives a case of *tinea tonsurans*, degenerating into favus, in consequence of irritation and increased secretion. As a sequel to this, I may mention, that during the time when I was experimenting with favus crusts, a member of my own family was attacked with favus. There was only one spot of the disease, but this was a most perfect specimen. To this I applied strong sulphuric acid, and subsequently tincture of iodine. The result was, that in two or three days I had a complete case of *tinea tonsurans*; which lasted about ten days longer. At the same time as this case occurred, I was myself affected with herpes circinatus.

A case which occurred in the skin wards of the Edinburgh Infirmary, under the care of Professor Laycock, in 1857, very fully confirmed the view of the identity of parasitic diseases, and formed the subject of a clinical lecture, in which this opinion was strongly upheld. The patient, if I recollect rightly, had been in charge of some cows affected with *tinea tonsurans*. On admission, he was covered with eruption, presenting a most singular medley of skin diseases, from lichen to herpes, in almost every form, and where any source of irritation existed, ending in ecthyma and lupus. The transition in all cases was gradual and regular, and the Professor remarked that they were evidently merely modifications of the same parasitic disease.

I am, Sir, your obedient Servant,

October, 1859.

JOHN LOWE, M.D. Ed.

#### DIPHTHERIA TREATED BY IRRIGATIONS WITH A SOLUTION OF COMMON SALT.

To the Editor of THE LANCET.

Sir,—On perusing THE LANCET, I perceive that M. Roche mentions, in *L'Union Médicale*, that he has saved his patients by the above treatment. This treatment is certainly not confined to M. Roche, inasmuch as I have been in the habit of using a solution of chloride of sodium locally, with chlorate of potash internally, since the year 1853. I have also found the solution very useful in aphthous affections of the mouth and throat. In fact, I have been using the solution of common salt daily in the case of a wealthy farmer, lately suffering from aphthæ, who is laboring under heart disease and chronic liver mischief, and most decidedly with very good effect. I am, Sir, yours truly,

G. SELWYN MORRIS, M.D.

Chatham, Canterbury, Sept. 1859.

#### ON A CASE OF UTERINE HEMORRHAGE.

To the Editor of THE LANCET.

Sir,—In your "Annotations," under the heading of "Perils of Parturition," you have drawn attention to the dangers incurred by parturient women when subject to unskilful and ignorant tendance. It is too often the case that the best efforts of nature and art are frustrated by careless and ignorant attendants in the lying-in chamber; but, happily, it is seldom that the accoucheur meets with such aggravated stupidity as is exemplified in the following case:

On the 21st instant I attended Mrs. S——, in labor with her third child. Her labor was quite natural, the child being born at six p. m.; the placenta was expelled immediately afterwards, and the uterus contracted well. Having given directions that she was not to be disturbed for some time, I left her about seven p. m., she having expressed herself as feeling quite comfortable. I had just reached my house, which may be about five minutes' walk from the patient's, when a messenger arrived to say "Mrs. S—— had taken a fit." I went directly, and was surprised to see her supported in her chair by her attendants, she having fainted, while there was a fearful pool of blood upon the floor around the chair. I got her at once into the recumbent position, sluiced her with cold water, and by the administration of stimulants, &c., contrived to rally her; but she suffered during the whole night from subsultus tendinum, jactitation, and the usual symptoms following upon great loss of blood; and although she is now in a fair way towards recovery, she is likely to feel for some time the effects of her rashness. It appears that immediately on my leaving her, or in one hour after the birth of the child, her attendants either induced her, or allowed her, to get out of bed to take a cup of tea with them! She had scarcely got into the chair when the hemorrhage came on, but so suddenly that she had no power to give an alarm, the attendants suspecting nothing until they saw her faint—hence their sending for me, and the "fit."

I am, sir, yours respectfully,

RICHARD ELLIS, L.R.C.S. Edin.

Gainford, Oct. 1859.

#### THE LATE SIR CHARLES BELL.

To the Editor of THE LANCET.

Sir,—I have read in your journal your notice of M. Pichot's life of the late Sir Charles Bell; \* and while I fully concur in the opinion you so well express regarding the value of the reminiscence of eminent men, you must excuse my differing from you as to the merit of M. Pichot's memoir, which, although written apparently in the most flattering terms, so far as it refers to the early personal history of Sir Chas. Bell, is a tissue of absurdities, inconsistencies,

and gross misrepresentations. My object in now addressing you is not to enter upon a criticism of M. Pichot's work, as I shall leave that for another occasion, but to request an explanation of the passage in your article in which you refer to Sir Charles Bell being in "*the position of a struggling lad in a cold and strange capital*." I am quite at a loss to understand the meaning of this passage, as I am not aware of Sir Charles Bell ever having been in early life in any other capital than in Edinburgh, where he was born of respectable parents; and although the father died when he was only six years of age, he had the inestimable advantage of being carefully educated under the superintendence of his two elder brothers; Robert, the eminent conveyancer, and author of the "*Dictionary of the Law of Scotland*," and other standard works; and John, the celebrated surgeon. I cannot suppose your remarks apply to Edinburgh, as at the period when Sir Charles Bell left it to go to London, it could not be called "*a strange capital*," as it was remarkable for eminent men in every department of science, but more especially in medicine, and was frequented by men of talent from every quarter of the world. Yet this "*struggling lad*" had not only been one of the surgeons of the Royal Infirmary, but had a class of ninety students.

Yours, &c.,

CHARLES BELL.

Heriot row, Edinburgh, Sept. 1859.

#### THE NAVAL MEDICAL WARRANT.

To the Editor of THE LANCET.

Sir,—It is very desirable that all those members of the medical profession who, having just completed their studies, entertain any idea of entering the Royal Navy, should not be misled by the Royal Warrant of the 13th of May last, which is circulated with the curriculum issued from Somerset House. Any stranger, on reading that warrant, would say that the pay, position, and future prospects held out to a surgeon entering on his career, were such as to render an appointment in the navy one to be desired. He would take it for granted that the terms of the warrant would be carried out; and not until it was too late, not until he had taken the shilling, would he learn how he had been gulled. Scarcely any of the provisions of the warrant have been acted upon; and the present Board of Admiralty have shown clearly and unmistakably their determination not to comply with them; and in a circular issued during the last week, regulating the rates of travelling expenses to be paid to officers, the medical officers occupy their old position, the surgeons (ranking, according to the warrant, with majors or lieutenant-colonels) being paid on the same scale as engineers and naval instructors, both their juniors in rank two grades; while the assistant-surgeon is paid at the same rate as a naval cadet fourteen years of age, and 1s. 6d. more than

the boatswain or carpenter of the ship. They have shown it by refusing to make any alteration in the uniform, so that medical officers still wear the same as they did formerly, and the same as is worn by officers ranking two grades below them; a staff-surgeon having one row of lace on his coat, while the combatant officer of the same relative rank has three. They have refused to pay to the widow of a surgeon recently deceased the pension according to the terms of the warrant, and they have also refused to act up to the terms of the article referring to forage, allowances, &c.

Anyone entering the navy now as an assistant-surgeon, takes a position infinitely inferior to that of his fellow student who goes into the army.

The only benefit the naval medical officers have as yet derived from the warrant has been an increase of pay. This, it is to be hoped, the Admiralty cannot deprive him of; most assuredly they will do so if they can. The inducements to take service under them exist only on paper. Let the medical student remember this.

I am, Sir, your obedient servant, N. R.  
October, 1859.

#### A MEDICAL ACT IN BRITISH AMERICA.

To the Editor of THE LANCET.

Sir,—In regard to the Medical Act of New Brunswick, commented upon in THE LANCET,\* you have therein clearly expressed the designs had in view by the profession here; which were, to allow, on first registration, a good many persons who were deficient in *degree* of qualification, and then frame a schedule, to be sanctioned by Government, enumerating colleges the graduates of which should be entitled to registration, and thus gain for the profession a higher status, and take other measures for its elevation. But it was never intended, even for the first registration, to admit persons whose title to it was wrong in *kind*, such as a homœopathic degree. Of your opinion on this subject, and that you would discountenance any annexment of such to the profession by registration on the same roll, I am perfectly well aware, from your repeated statements on the point; hence I consider it a little unlucky that from your concluding remarks a sort of inference is to be drawn, that if the homœopathic college of Cleveland were a chartered institution a degree from it would be a valid title to registration. It is true that the college is chartered, but under the name of *Homœopathic Medical College*. The charter says that there shall be instruction given "in the various departments of medical science, which shall include anatomy, physiology, pathology, materia medica, chemistry, obstetrics, medical jurisprudence, principles and practice of *homœopathic medicine and surgery*." In the



diploma from this college which was presented, the last-mentioned chair is that of "Institutes and Practice of Homœopathy," the word "medicine" not being mentioned, although the recipient, in the diploma, is called Doctor of Medicine. This degree is a homœopathic degree, and not a medical one. As well might a veterinary surgeon claim to be registered because his diploma contains the word "surgeon," and our Act says that anyone having a diploma to practise surgery shall have that right. It is surgery, but of a peculiar kind; the other is medicine, but of a peculiar kind: one to practice on horses, the other on asses.

I think, from what I can gather, that, should the matter be brought to trial, the law will sustain the view that a homœopathic degree is not a medical degree in the sense of the terms of our Act. From this question being so unusual a one for the arbitration of the law, it must naturally be one of interest to the profession everywhere; and if such is your view, and you desire it, I will furnish you with particulars of further events.

From being obliged to write in extreme haste, to be in time for the mail, I may have given you a very imperfect idea of what I intended to impart.

Thanking you for your flattering remarks on our efforts,

I am, Sir, your most obedient servant,

W. T. HARDING, M.R.C.S.,

Registrar under N. B. Medical Act.

St. John, New Brunswick, Sept. 20th, 1869.

## THE VENOUS CIRCULATION.

To the Editor of THE LANCET.

SIR,—From a perusal of the letter of Mr. Nichols in the LANCET,\* I am induced to offer a few remarks upon the circulation of the blood, more especially respecting the venous; and I wish to say that my remarks, like his, are only hypotheses for further consideration, if considered worthy of it.

My impression is, that neither the force of the heart's action, the *vis a tergo* exercised by the arterial circulation through the capillaries, nor the lateral pressure (which Mr. Nichols supposes to be exercised upon the veins by the pulsating artery in close proximity to them,) have much influence in promoting the circulation in the veins, which I believe to be chiefly effected through the agency of *heat*, which also exerts its influence upon the general circulation, both venous and arterial. I feel convinced that heat is the chief motive-power in the circulation of the blood; indeed, all the theories hitherto advanced as to the cause of the venous circulation, are very unsatisfactory, and far from being convincing.

With regard to Mr. Nichol's theory of lateral

pressure having *much* propelling power, I think it open to great doubts, the principal of which is the general absence of venous pulsation, which we should undoubtedly find if each arterial blood-wave caused material pressure upon the veins. Again, in the case of ligature of an artery, I am not aware of its exercising any direct influence upon the circulation in the vein, but that its circulation goes on as usual upon the smaller arteries becoming adapted to their extra labor. But I can easily understand that the powers above-mentioned, together with muscular contractions, are aids, and, under extraordinary circumstances, (as in great exertions) perhaps material aids, to the circulation; but heat is the *sine qua non*—the all-important motive-power. We are all aware of its power in the circulation of water in a system of pipes through buildings, for the purpose of warming them; and this is caused principally by the expanding effects of heat upon the water; and the same will apply to its effect upon the blood and capillary vessels. And this theory will hold good whether the heat in animals is generated in the pulmonary or systemic capillaries, and still more if—"as no doubt it is"—heat is generated more or less throughout the capillary system. The immediate effect of heat is the expansion of the materials of the blood, which must cause motion and displacement; and the pressure of the expanded blood upon the elastic vessels causes some resistance, which thus contributes to the moving-power of the heat, the direction to the circulation being given by the propelling force of the heart acting through the capillaries. And this I believe to be the principal use of the heart: its position is at the junction of the cross-roads of the circulation, which, indeed, combine to form its substance, and there it remains at its duty to the end, faithfully guiding the vital fluid to its proper path in the varied and elaborate duties it has to perform. No doubt it is mainly to the stimulation of heat that the heart owes its commencing and continued action; the influx of hot blood into its ventricles and auricles causing their sudden expansion, both by its heat and volume, and the stimulation produced by this extraordinary and sudden stretching; and heat causes sudden reaction, and powerful contraction, and hence the loudness of the heart's sounds.

In watching the capillary circulation through the microscope, some of the tubes may be seen to expand, and the discs increase in size, this taking place, no doubt, in the anastomoses in which the heat is generated; others are at the same time seen diminishing in size. The application of additional covering, or direct heat to the skin, causes increased warmth in the part, from the dilated and relaxed capillaries being speedily filled with warm blood to fill the vacuum formed; or, more probably, the actions of expansion and rush of blood are simultaneous, and the formation of a vacuum is prevented; an increased volume of blood, increased warmth, and

of course, motion or circulation of the blood, being the result. Therefore, when I express my opinion that heat is the principal agent causing the circulation of the blood, I think I do so upon self-evident grounds, and without attempting, by specious reasoning, to reconcile cause and effect. Nutrition has been suggested as a cause of circulation; and no doubt it is, if we go on inquiring into first causes, as heat is evolved in the process.

I am, Sir, your obedient servant,  
September, 1859. M. C.

#### DUMFRIES CIRCUIT COURT OF JUSTICIARY. FRIDAY, SEPTEMBER 23D, 1859.

FRAUD ON THE REGISTER.

(Before Lord Justice Clerk (INGLIS) and Lord NEAVES.)

JOHN BROATCH, designating himself a surgeon, and residing at Orchard Cottage, Ruthwell, Dumfriesshire, was charged with having committed a fraud upon the Medical Register, in having caused his name to be inserted therein as a licentiate of the Royal College of Surgeons of Edinburgh, on the faith of a certificate that he was possessed of a diploma dated March, sworn to by the defendant, and attested by Dr. James Murray M'Culloch. In the course of the evidence given, it appeared that neither Dr. M'Culloch nor Mr. Waugh, the county magistrate before whom the affidavit was made, had ever seen the diploma referred to, but that the former had attested its existence on the representations made to him by the defendant—that he was actually possessed of the diploma in question.

On a reference to the diploma book of the Royal College of Surgeons of Edinburgh, which was produced in court, the name of John Broatch was not found therein. After some evidence, tending, but by no means conclusively, to show that the defendant had once actually possessed a diploma, which had become lost, the advocate depute addressed the jury, asking for a verdict of guilty; and Mr. Gifford, the counsel for the defendant, having also spoken, the Lord Chief Justice Clerk summed up. The jury returned a verdict of guilty, and the prisoner was sentenced to three months' imprisonment.

### Obituary.

#### DR. ALISON, OF EDINBURGH.

It is our melancholy duty to chronicle the demise of one who combined in his person the eminent physician, the earnest philosopher, the unwearied philanthropist, and the sincere Christian; of one who, respected and beloved by all classes, was in an especial manner entitled to the appellation of the "Friend of the Poor."—Dr. Alison has departed from amongst us. He died at his house, Woodville, near Colinton, on the afternoon of Thursday, Sept. 22d. Born in

1790, Dr. Alison at his death had reached the boundary of the three score years and ten. His father was the Rev. Archibald Alison, the eloquent preacher, and the highly esteemed author of the "Essay on Taste;" his mother was a member of the family of the Gregorys, who have for centuries adorned the annals of Scotland with a succession of names celebrated alike in science and literature. His brother is the distinguished historian of Europe, Sir Archibald Alison.

Dr. Alison's early predilection was for a military life. In deference to the urgent wishes of his father, however, he abandoned his intention of entering the army; but through life he continued to take a deep interest in everything pertaining to military affairs. He entered on the study of the medical profession under most favorable auspices—his uncle, the celebrated Dr. James Gregory, holding then the highest rank as a physician in Edinburgh, and occupying the chair of Practice of Physic in the University. He took his degree in 1811; and thenceforward, with the exception of a short period spent in travelling on the Continent, after the conclusion of the Revolutionary war, he continued to exercise the duties of his arduous, anxious, and responsible profession, in Edinburgh, both as a teacher and as a practitioner, whilst health remained. As a dispensary physician he had large opportunities of practising amongst the poor, to whom his time and services, and also his means, were ever cheerfully and liberally devoted.

When but a young man he assisted his uncle, Dr. Gregory, in the delivery of his course of lectures on the Practice of Physic. In 1820 he was appointed Professor of Medical Jurisprudence in the University. This chair, however, he held only two years, when he was appointed colleague and successor to Dr. Andrew Duncan, senior, Professor of the Institutes of Medicine. For some years he gave part of the course, at the same time acting as one of the clinical professors. On the death of Dr. Duncan he became sole Professor of the Institutes of Medicine, comprehending physiology, pathology, and therapeutics. The substance of his physiological lectures was afterwards published in the form of "Outlines of Physiology," in 1831. After filling this chair for some years, on the chair of Practice of Physic becoming vacant, Dr. Alison was by universal consent pointed to as the man best qualified to fill it; accordingly, it was offered to him, spontaneously and unanimously, by the Town Council of Edinburgh.

His practice as a physician continued steadily to increase, so that his time was becoming more valuable; yet he did not abate in his attention to the sick poor: fatigue, money, time, all were as nothing to him in comparison with the following the naturally benevolent leading of his heart. He was, however, overtaxing even his great strength. Excepting an attack of fever, caught in the exercise of his profession, and an

inflammatory attack at an earlier period, he had enjoyed excellent health. But it was presuming too far on this rich blessing to overwork, as he did, both mind and body. It is just thirteen years ago, when in the full vigor of his intellect, and apparently strong in body—having attained the highest honors of his profession, and, in consequence of the death of Drs. Abercrombie and Davidson, left in possession of the lucrative field of consulting practice almost without a rival—that Dr. Alison, whilst visiting the wards of the Infirmary, was suddenly and unexpectedly, without warning of any kind, struck down by that terrible disease, epilepsy. Ever since then, at longer or shorter intervals, and in greater or less severity, these attacks have recurred, shattering by degrees a naturally strong constitution, until at length it has succumbed under repeated shocks. For a number of years after his first seizure Dr. Alison was able, though of course in a modified degree, to continue his practice, his lectures, and his literary labors; but latterly he retired altogether from practice, and in 1855 he gave up his professorship, after, having filled it and other professorships in the University of Edinburgh, during a period of thirty-five years.

Since 1855 Dr. Alison has gradually withdrawn from public life, but he was able, only last year, to preside over the meeting of the British Medical Association in Edinburgh, and the unbounded enthusiasm of his reception showed the extraordinarily warm and universal feelings of respect and love with which he was regarded. Perhaps the effort was too great for his impaired strength; certainly since that period his health has declined in an increased ratio. Ever and anon attacks of his malady came to interrupt his pursuits, but in the intervals he read both medical and scientific works, and the lighter works of the day, and wrote a good deal—for even then, as in former days of activity, it might be said of him, "*nulla dies sine linea*."

His writings on various topics in medicine, general science, social and political economy, &c., were so numerous that it would fill a column to enumerate them. Amongst the most remarkable were his essays on the "Contagion of Fever" and on "Vital Affinity." His "Observations on the Management of the Poor in Scotland," published in 1840, had a powerful influence on the social condition of the people, by aiding in the establishment of a poor-law in that division of the kingdom. To him, also, his country is greatly indebted for the introduction, though tardily, of the system of registration of births, deaths and marriages—a most important measure, which is found to work well. He took an interest, too, in the much-vexed question of medical reform. He advocated strongly the necessity of a liberal general education as the best training of the mind for professional studies, and as the best means of elevating the profession which he himself so much adorned;

and he happily lived to see, in the passing of the Medical Act, the dawning of a new and brighter day for the science and art of medicine.

Dr. Alison married his cousin, a daughter of the celebrated Dr. James Gregory, whose death preceded his own by many years; and he had no family. The following graphic summary of his character we extract from the *Scotsman*:

"No one who knew Dr. Alison could have failed to perceive that he was ruled far more by the heart than by the head. The desire of fame, so powerful with most men, was with him a quite subordinate passion; even the love of science, though strong, was rarely the ruling motive. His life was one of perpetual devotion to small duties; and it was characteristic of the man that the least of these invariably monopolized his attention for the time as completely as if he had been engaged in the most brilliant discoveries or in the doing of work that was to revolutionize the world. A fever-stricken close, an overcrowded lodging, a pauper neglected or tossed about from one parish to another, moved his sympathies far more than the largest generalization of science told upon his convictions. Yet his intellectual tendencies were undoubtedly towards abstract truth, and he was especially fond of investigating the metaphysical principles which lie at the root of physiology. Hence that remarkable combination of philosophic instinct with love of practical detail which made Dr. Alison at once the earnest student and the hard-working practitioner of medicine. In both characters he excelled most men of his time; indeed, the amount of labor he voluntarily imposed on himself was enormous, and nothing but the most indomitable perseverance could have enabled him to maintain as he did, in the midst of his endless round of daily duties, that firm grasp of the principles of medical science that characterized his prelections to the last. The influence which he exercised over his own profession and over his pupils was the more remarkable that it was quite unconsciously exercised. No man was less alive to his own merits, or more willing to make concessions where no principle appeared to be at stake. Yet, where a good work was to be done, or a carefully considered opinion to be maintained, Dr. Alison's tenacity of purpose usually overcame all resistance; and everyone readily yielded to the enthusiasm of a man who put his whole heart into whatever he did, and who, when he put his hand to the plough, never looked back."

#### PROFESSOR NICHOL.

We have to record with regret the death of John Pringle Nichol, LL.D., Professor of Astronomy in the University of Glasgow, which took place on the 19th ultimo, at Glenburn House, Rothesay. Dr. Nichol had been in delicate health for a considerable time past. On the Tuesday previous, his condition was such as to induce his friends to advise his removal from

his town residence at the Observatory to Rothesay, where, on the following Thursday, his illness assumed a more alarming aspect, and from that day he continued gradually to sink till the afternoon of Monday, when he expired from congestion of the brain. Professor Nichol was a native of Brechin, in Forfarshire, where he was born on the 13th of January, 1804. After acquiring the ordinary rudiments of education, he entered King's College, Aberdeen, where, as a student of mathematics, he greatly distinguished himself. He was subsequently employed as a teacher in different towns, and filled the office of Rector of Montrose Academy. Having originally been intended for the Church, he went through a course of theological training; but literature and science proved more attractive than theology, and to these he specially devoted himself. In 1836, he was appointed by the Crown, Professor of Astronomy in Glasgow University. His various works—"The Architecture of the heavens," "The Solar System," "The Planetary System," "The Planet Neptune," and the "Cyclopædia of the Physical Sciences"—were all written with great chasteness and power. Prior to his death, he was employed on a new edition of the "Physical Sciences," to be published by Messrs. R. Griffin and Co., of London and Glasgow. He was also engaged on the new "Cyclopædia of Universal Biography," now in course of publication by Mr. William Mackenzie, of Glasgow. In the "Cyclopædia of Biography," published about five years ago by Messrs. R. Griffin and Co., the principal names in the department of the Physical Sciences were entrusted to Professor Nichol. In the domain of moral science and philosophical investigation, Dr. Nichol has achieved a reputation scarcely less brilliant than in the peculiar walk of his professorship. As a public lecturer, especially on his favorite science, Dr. Nichol was greatly admired for the clearness and beauty of his style, and the interest with which he never failed to invest his theme. In private he was courteous, obliging, and kind. Dr. Nichol was twice married, and by his first wife had a son and a daughter, both of whom, with his second wife, survive him.—*North British Mail*.

#### HORATIO NELSON TILSLEY, Esq., M.R.C.S.E.

North Petherton and its neighborhood have sustained a severe loss by the lamented death of Horatio Nelson Tilsley, Esq., M.R.C.S.E., who for many years enjoyed an extensive practice in North Petherton and the surrounding district. The deceased gentleman, who expired on Sunday, the 21st ult., after a brief illness of a fortnight, was sixty years of age. He was born at Taunton on the 3rd of October, 1798; and the entry in the register of the parish church of St. James there intimates that he received his baptismal name from the circumstance of his birth happening at the time of the arrival of the news of the battle of the Nile. He received his education

at the schools of the late Mr. James Crosswell, of this parish, and of the late Mr. Henry Norris, of Taunton. He commenced practice at Petherton in the year 1825, where he remained until his decease. Mr. Tilsley was a medical officer for the district under the Bridgewater board of guardians, and his unquestionable professional ability, added to his kindness of manner, generosity of disposition, and active charity, won him the love and respect of his poor as well as his wealthier patients, and by all classes his loss is severely felt, and his memory will be ever respected.

#### News Items, Medical Facts, &c.

Dr. Livingstone gains fresh laurels by his discovery of another fine lake, some, twenty or thirty miles broad, and fifty or sixty miles long, in Central Africa.

DELIGATION OF THE COMMON CAROTID ARTERY IN PARIS.—A man twenty-five years of age was admitted into the Laribossiere Hospital under M. Chassaignac, some time ago, with a small tumor situated on the left side of the posterior wall of the pharynx. This was thought to be an abscess, and punctured; no pus issued, but a second puncture caused the spitting of florid blood, which continued to flow per saltum to such an extent as to place the life of the patient in jeopardy. Compression of the carotid diminished the hæmorrhage, but did not command it. M. Chassaignac thereupon proceeded at once to tie the vessel. Although the greatest care was taken not to include the pneumogastric or laryngeal twig, complete aphonia occurred, and lasted for the last twenty-four hours; there was also severe headache on the side corresponding with the deligated vessel. Up to the 31st ult. the patient, who had been operated upon on the 26th, was doing well.

HÆMATIC CAPSULES.—M. Foy, a talented pharmacien of Paris, proposes to give to chlorotic, weak, or convalescent patients, capsules containing extract made from the blood of the calf, sheep, or ox. The preparation of these capsules is extremely simple; no desiccation, trituration, or pulverization is required. The blood is simply to be evaporated in vacuo, and to the extract a certain quantity of phosphate of soda is to be added to assist the gastro-intestinal solubility of the solidified fibrine. The proportions are extract of arterial blood of calf, one pound; phosphate of soda, thirteen drachms: mix thoroughly, and make capsules of from five to ten grains. Each capsule contains a small quantity of iron, this very minute amount insuring the absorption of the metal, and assimilating the hæmatic capsules to the natural chalybeate waters. From ten to twenty capsules a day may be given, beginning with those made with the blood of the calf.

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